

THE

# Desert

M A G A Z I N E



OCTOBER, 1943

25 CENTS

# BOOKS OF YESTERDAY AND TODAY

—a monthly review of the best literature of the desert Southwest, past and present.

## LIFE OF JEDEDIAH SMITH IS PORTRAIT OF TRAIL BLAZER

"It is that I may be able to help those who stand in need that I face every danger. It is for this that I traverse the mountains covered with eternal snow. It is for this that I pass over the sandy plains in heat of summer, thirsting for water, and am well pleased if I can find a shade, instead of water, where I may cool my overheated body. It is for this that I go for days without eating . . . most of all, it is for this that I deprive myself of the privilege of society and the satisfaction of the converse of my friends."

These words, taken from the journal of Captain Jedediah Smith, explain the vision which led him in 1822 to begin exploring and charting the Farther West.

Maurice Sullivan in his book *JEDEDIAH SMITH: TRADER AND TRAIL BREAKER* tells the epic story of this part legendary, remarkable figure. Although only in his twenties when he did his dangerous work, he was honored as a great leader by the men of his period. For his followers had seen him endure suffering without complaint while lesser men quit,

despairing. They had seen him punish wrong-doers with his own hands, and they had heard him pray with the tenderness of a father for the men who lost their lives on the trail.

Jedediah Smith was not without a sense of humor, for all his pious accounts. At one time, when he was being held by Spanish padres in California, suspected unjustly of causing mission Indians to revolt, he found himself completely dependent upon an old overseer for food. The padres had made no provision to feed him while they held him prisoner. Later, Smith was talking with one of the fathers: "He asked me if I had anything to eat, thinking, I suppose, that two or three days was nothing for a heretic to go without eating . . . this was the first time he had mentioned the subject, perhaps presuming that I lived on faith instead of food." Religious though he was, Smith was nevertheless a very practical man.

Captain Smith was the discoverer of the central route from the Rockies to the Pacific, and he led the first party, a small band of trappers, through the great South Pass. He was the first white man to cross Nevada and Utah. He conquered the Sierras, and in one scorching summer, entering from an overland route on foot, was the first to explore the Pacific slope. In brief, he led the way for the expansion of the republic from Missouri to the Pacific. The well written character study and biography by Maurice Sullivan lends color and fascination to the story of one of America's greatest pioneers.

Press of the Pioneers, 1936. 233 pp. Notes, index, illustrations. Special sale price \$3.00.

—Aliton Marsh

## OLD MEXICO SETTING FOR EXCITING ADVENTURE TALE

*SILVER SADDLES* is a modern adventure story for youthful readers, by Covelle Newcomb. Testing the riding ability of his two sons, Sam Ryder sends young Flint 100 miles into the interior of Old Mexico for a horse—a beautiful Palomino quarter-horse—that had been given him by a friend.

Flint outwits bandits, takes part in a real Mexican rodeo and has exciting experiences in Ghost City in a deserted church.

Published in August by Longmans, Green and company, New York. Illustrated by Addison Burbank. Index. 262 pp. \$2.25.

—P.B.

## DESERT STORIES TOLD FOR YOUNG CHILDREN

Three charming children's books about the desert are *NEW MEXICAN BOY* by Helen Laughlin Marshall, *PINKY FINDS A HOME* by Margaret W. Nelson, and *THE BLIND COLT* by Glen Rounds. The first, written for ages 8 to 12, is the realistic story of present-day descendants of the Spanish settlers of New Mexico, a story sweet and colorful.

In the second book, Pinky is a toy plush rabbit who finds new friends and adventures when he is discarded on the desert. It is a gay little tale that would engage the attention of children 5 to 9 years old.

*THE BLIND COLT* is account of a little horse's life in desert badlands, ages 8-12.

Each story is told with imagination and descriptive detail and is attractively illustrated in full color. *NEW MEXICAN BOY*, with drawings by Olive Rush has pictures done in the soft golden and rose of the land it describes. Pinky's story is filled with odd little sketches and full page drawings in bright color. All of the books are excellent for storytelling.

Holiday House, New York, 1942. *NEW MEXICAN BOY* and *THE BLIND COLT* \$2.00 each, *PINKY FINDS A HOME*, \$1.75.

—Aliton Marsh

## STORY OF MOUNTAIN MEN IN NEW HISTORICAL NOVEL

Merritt Parmelee Allen who has won a large following among young readers for his stories and biographies of America's heroes, has written a new historical novel, *THE SUN TRAIL*. Although especially for teen age readers, adults will find it highly entertaining as well as educational.

Blazing the trails from Utah to California with Jedediah Strong Smith in 1826, young Bob Evans, heir to an English title, and his companions learn what is means to be a mountain man. Their amazing adventures make *THE SUN TRAIL* a fascinating book.

Mr. Allen has brought to life a chapter of western history in an alluring manner.

Published in August by Longmans, Green and Co., New York. 198 pp. \$2.00.

—Pearl Barter

## ZANE GREY ARIZONA NOVEL READY FOR WESTERN FANS

*STAIRS OF SAND*, a drama of the western desert, is told in the best Zane Grey manner with the usual action, emotional conflict and beautiful scenic descriptions. With the skill of an experienced Western writer, Mr. Grey seeks to reveal the mystery, magic and power of sand swept lands and their effect on the lives of the weak and strong of the desert.

Harper and Brothers, New York, 1943. 321 pp. \$2.00.

—A.M.

## THE DOCTOR ALONE CAN'T CURE YOU!

By ROLF ALEXANDER, M. D.

The Desert Medicine men have known for centuries this fact confirmed by the scientists of today:

The human mind can either slow down or speed up all healing processes within the body.

After a lifelong study of the effects produced within the body by the mind, Dr. Alexander, in this simply written book has given clear definite directions, whereby the invalid may co-operate with his doctor by mentally spurring those forces of nature which built his body, into speeding the repair of it. A MUST book for all whose health is below par.

\$2.00 POSTPAID  
C.O.D. IF DESIRED

**OVERTON PRESS**  
ZEPHYR COVE, LAKE TAHOE, NEV.



## DESERT

# Close-Ups

• In a forthcoming issue DESERT readers will learn about a garden which came into being under strange circumstances and in a hostile environment. It was a dream realized by Sidney Armer and his wife Laura when they built their home in the Navajo country of north-eastern Arizona. "Laura" is Laura Adams Armer, known internationally for her photography, painting and writing. Her children's books are distinguished not only for their authenticity but for their poetic quality and beautiful illustration in which Mr. Armer often collaborates. Her book on cactus, illustrated by her husband, is standard. "Southwest" is her subjective interpretation of the desert country.

• Unusual is DESERT'S presentation of the affidavit of Hashkeeneni Begai in "Blood Revenge of the Navajo," detailing the murder of the two prospectors Walcott and McNally in 1884. Richard Van Valkenburgh, who took this statement from the original record, says, "It is a rare document and gives a first hand account of how a Navajo feels and how he gets rid of the whites who impose themselves on his country. Actually it is a study in ethnic psychology." Van has in preparation more stories of the Indian country including original material never before made public.

• That detective language Jerry Laudermilk uses in "Case of the Split Rocks" is not all due to the scientific attitude of the geochemist. He really has worked on the fine points of murder cases in almost the same manner in which he tracked down the culprit in this month's "case." Once a story got out that he could tell one's height by the structure of his hair. That was a tall tale engendered by the enthusiasm of a newspaper reporter. But he still cannot convince some people such a feat is impossible—even for a man who "makes" mirages and geodes in his laboratory . . . Besides the thrill that a scientist naturally feels when successful in a quest, Jerry and his associate Ted Kennard had the satisfaction of seeing their term "lightning spalling," as applied to rocks split by lightning, accepted internationally.

• Fred H. Ragsdale, long familiar with the Navajo country, says of this month's cover: "Of the many photographs I have taken of Indian life in the Southwest, this is one of the few that could be termed a true portrait of the Navajo Scene. Here in the gloom of the hogan is a Navajo woman melting silver for jewelry. By her side stands a young son whose thoughts are in some far remote place as he stares out through the entrance—away to the east across the beautiful colorful country of northern New Mexico. Studying the faces of mother and child seems to bear out the statement that to many Navajo being confined to one locale for the purpose of making a living is painful and contrary to the nomadic nature of this race."



Volume 6

OCTOBER, 1943

Number 12

<b>COVER</b>	NAVAJO MOTHER AND SON, Photo by Fred H. Ragsdale, Los Angeles, California.	
<b>BOOKS</b>	Jedediah Smith, and other reviews . . . . .	2
<b>CLOSE-UPS</b>	Notes on Desert features and their writers . . . . .	3
<b>POETRY</b>	Prospector Jim, and other poems . . . . .	4
<b>GEOLOGY</b>	Case of the Split Rocks By JERRY LAUDERMILK . . . . .	5
<b>ARTIST</b>	His Art is Lusty and Bold By OREN ARNOLD . . . . .	9
<b>PRIZE STORY</b>	Apaches Scalped My Doll By HELEN PRATT . . . . .	13
<b>DESERT QUIZ</b>	A test of your desert knowledge . . . . .	14
<b>ART OF LIVING</b>	Desert Refuge, by MARSHAL SOUTH . . . . .	15
<b>LETTERS</b>	Comment from Desert Magazine Readers . . . . .	17
<b>INDIANS</b>	Blood Revenge of the Navajo By RICHARD VAN VALKENBURGH . . . . .	19
<b>BOTANY</b>	Favorite of the Chuckawalla By MARY BEAL . . . . .	24
<b>LOST MINE</b>	Lost Josephine Gold Mine By CHARLES KELLY . . . . .	25
<b>MINING</b>	Briefs from the desert region . . . . .	28
<b>NEWS</b>	Here and There on the Desert . . . . .	29
<b>CRAFTS</b>	Amateur Gem Cutter, by LELANDE QUICK . . . . .	32
<b>HOBBY</b>	Gems and Minerals —Edited by ARTHUR L. EATON . . . . .	33
<b>INDEX</b>	Index to Volume Six, Desert Magazine . . . . .	36
<b>COMMENT</b>	Just Between You and Me, by the Editor . . . . .	39

The Desert Magazine is published monthly by the Desert Publishing Company, 636 State Street, El Centro, California. Entered as second class matter October 11, 1937, at the post office at El Centro, California, under the Act of March 3, 1879. Title registered No. 358865 in U. S. Patent Office, and contents copyrighted 1943 by the Desert Publishing Company. Permission to reproduce contents must be secured from the editor in writing.

RANDALL HENDERSON, Editor — LUCILE HARRIS, Associate Editor.  
BESS STACY, Business Manager. — EVONNE HENDERSON, Circulation Manager.

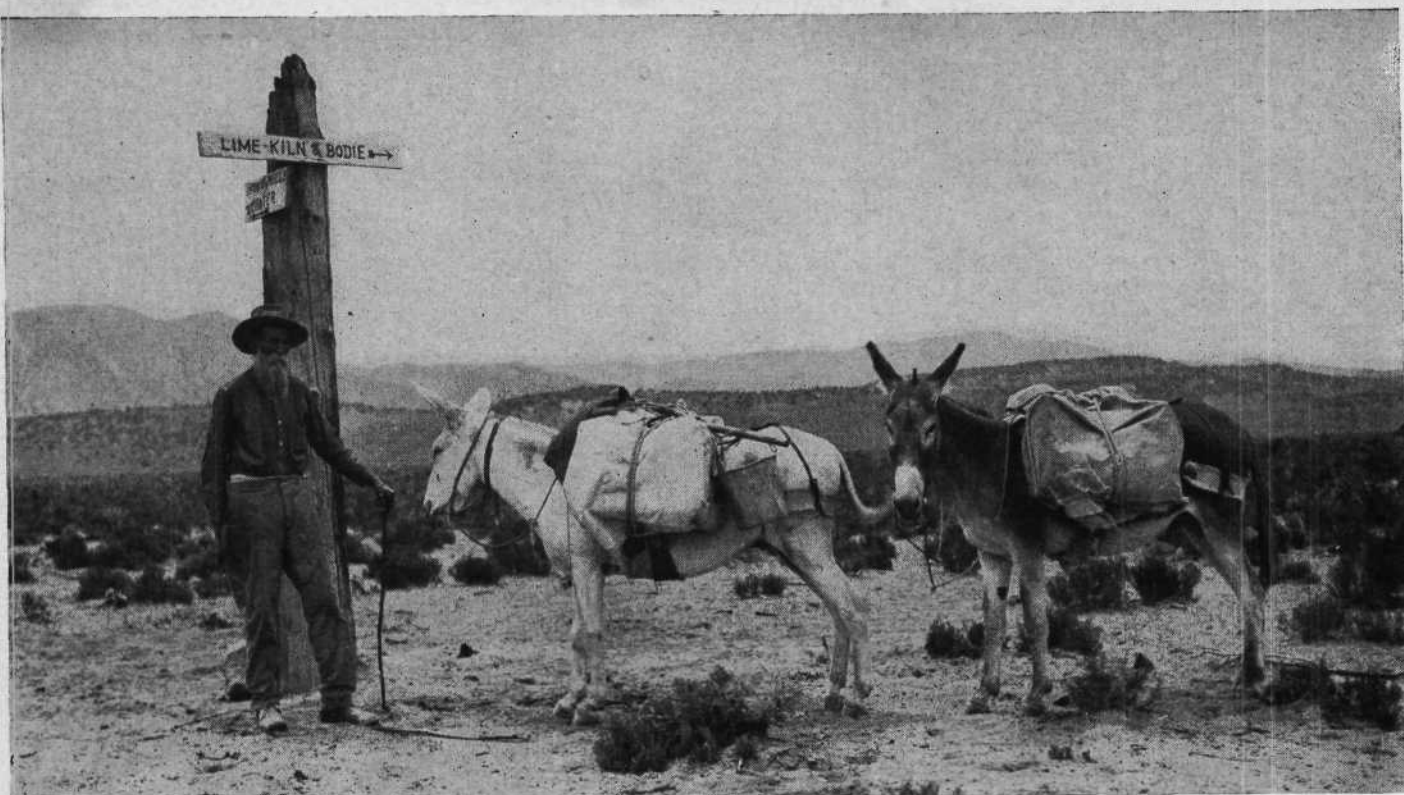
Manuscripts and photographs submitted must be accompanied by full return postage. The Desert Magazine assumes no responsibility for damage or loss of manuscripts or photographs although due care will be exercised for their safety. Subscribers should send notice of change of address to the circulation department by the fifth of the month preceding issue.

### SUBSCRIPTION RATES

One year . . . . . \$2.50 Two years . . . . . \$4.50  
Canadian subscriptions 25c extra, foreign 50c extra.

Subscriptions to Army personnel outside U.S.A. must be mailed in conformity with P.O.D. Order No. 19687.

Address correspondence to Desert Magazine, 636 State St., El Centro, California.



## CLOUDBURST ON THE DESERT

By WILLIAM CARUTHERS  
Ontario, California

With scars aslant her withered breast  
The wounded desert lies.  
The hush of ages is her couch,  
Her coverlet, the skies.

Calm in her pain, she knows her wounds  
With healing time will mend,  
And to her fevered brow will come  
The kiss of whispered wind.

And from a dune or lone dry wash  
Will lift for her a prayer—  
Some salvaged soul who gave to her  
His burden of despair.

Though mauling Time may strike, he  
knows  
It cannot break her will,  
And when the stars at last go out  
She'll be the desert still.

## MY DESERT

By FORREST PITTS, A. S.  
Navy V-12 Unit  
Pocatello, Idaho

Give me the desert, wide and free,  
The smoke tree and the snake,  
The sage as far as eye can see,  
And this my home I'll make.

Its vistas make men humble,  
Its bounty makes men free.  
Though some would growl and grumble,  
The desert is for me.

Discard your plans and take your dole  
And cast them far away.  
Come play with me a desert role  
Where God speaks every day.

For hours at eve cool zephyrs blow,  
The moon comes up in full,  
And casts around its silver snow—  
Entrancing nocturnal cool.

Here's where I'll live, here's where I'll die,  
Here's where I want to rest.  
No more for "progress" will I cry—  
For God's plan is the best.

—Photo by H. M. Hall.

## Prospector Jim

By J. WOOD MAGEE  
Sparks, Nevada

He showed me the light that colors the hills.  
He took me away where the white mist  
gleams.  
He taught me to listen where silence speaks,  
To keep and to live what the desert dreams.

He led me far to the ranges beyond,  
Where the gold might be, or a fairer view.  
He spoke of God in the way that he could—  
Prospector Jim—and I think that he knew.

He brought me out here when my soul was tired  
To the healing strength of the sun and sand.  
We followed the lure of the silvered sage  
'Til we reached the beauty of dawn's own  
land.

We camped in the blue of the canyon's heart,  
We found sweet rest where the trail flowers  
smile.

It seemed, with the peace of the stars so near,  
That heaven could be but another mile.

Prospector Jim—I can see him today,  
Looking away where the hills find the skies,  
Speaking of God in the way that he could,  
Watching the desert with love in his eyes.

## PETRIFIED FOREST

By JESSIE BROWN THOMAS  
Wichita Falls, Texas

Once, in days of long ago  
Old trees stood here, row on row,

Tall and straight, but by and by  
Were lying dead beneath the sky.

Ages passed, and one by one  
Fallen trees were turned to stone.

Petrified they're lying there  
Changed by sun and desert air,

To black and gold, red and brown—  
Jewels in the desert's crown!

## HERITAGE

By LESTER F. ZIEGLER  
Los Angeles, California

When your two hind feet start itchin'  
For a chunk of open ground,  
And your eyes get sorta' twitchin'  
For a man-sized look around;  
If there ain't no sweeter singin'  
Than the wind a tearin' by,  
And the sand and leaves a stingin'  
Burn your cheeks with cherry dye—  
It's the Desert in your blood.

If you've spent an evenin' strummin'  
On a battered old guitar,  
While your lonesome fireside hummin'  
Had your thought a rangin' far;  
If you've learned each mesa's bearing,  
Call each twisted weed by name,  
Know the gold the sunset's wearing  
Never twice will look the same—  
You've got Desert in your blood.

You'll know heaps of sun and burnin'  
Underneath a brassy sky,  
You'll see moons and stars a churnin'  
As the Milky Way foams by.  
You must do some fireside cookin',  
Know each winding trail and track;  
Hunt for gold, but do your lookin'  
Where the rainbows arch their back—  
When the Desert's in your blood.

It's a place for mile-high dreamin',  
It's where honest dreams come true;  
It's a land where folks ain't schemin'  
How to get the best of you.  
There's a heap of downright pleasure  
For the folks who've ceased to roam,  
When they find the peaceful treasure  
Of a Desert home-sweet-home—  
With the Desert in their blood.

## CREED OF THE DESERT

By JUNE LEMERT PAXTON  
Yucca Valley, California

From crag to crag the lightnings flash  
Like cannons' boom the thunders roll.  
And o'er the waste the wind's wild dash  
Sweeps clean the sand dune and the knoll.





*Buttes and mesas of Monument Valley are natural targets of the fury of the "criminal" tracked down by Jerry Laudermilk in "breaking the case" of the split rocks. Photo by Chas. L. Heald.*

# Case of the Split Rocks

Some rockhounds may have thought it was the work of prehistoric Indians. Anyone with a fanciful turn of mind might have said a single blow from a giant's hammer must have done it. The "old character" was convinced it was due to what he called "joint faultin' and wedgin' action." But sleuth-minded Jerry Laudermilk couldn't accept any of these theories. He had to trail the criminal, super-detective style, until he caught up with him in the laboratories of California Institute of Technology. There he found the answer to the puzzle of the split rocks. Now that Desert's rockhounds are going to learn about these heretofore mysterious split rocks they will be able to recognize them next time they visit a field subject to severe electrical storms.

By JERRY LAUDERMILK

I HAD been sent to Arizona for a finishing course in tuberculosis. After about 90 days of the desert, the doctors gave me up as an inconsiderate, non-cooperative person with small respect for the art of diagnosis. In fact, by then I was ranging the desert with an old "character." We were looking for gold and found very little. Our claims remained just what they were—holes in the ground and piles of sun-scorched rock standing guard over dormant hope.

The old "character" was an adept, I was a novice being initiated into desert mysteries.

Hardly a day passed without some

curious and apparently unexplained natural phenomenon showing itself. It might be acre after acre of desert varnish shining in the sun, or some old weathered lava flow that spoke of other days when the desert was filled with fire and fury. Drifting dunes and rocks carved into fantastic shapes by desert sandblast gave evidence of the relentless war continually carried on between the weather and the rocks. Vast rock masses slowly were being reduced to boulders, cobbles, pebbles and finally sand.

Among these broken rocks and cobbles we saw day after day were many that had been split and shattered from no apparent

cause. I was aware that nature has many methods of reducing rocks to sand and soil. Vegetation is an extremely effective agent. Roots secrete carbon dioxide which, in solution in water, attacks certain minerals in the rocks and causes them to soften up, then the mere mechanical pressure of their growth forces the rock to pieces.

Another agent is cold. Water sometimes accumulates in small natural cracks. In freezing, it expands and exerts a terrific force and eventual breakage results. Extreme variation in the daily temperature also may cause rocks to break. Temperature of the rock itself may range from 150 degrees in the middle of the day to near freezing at night.

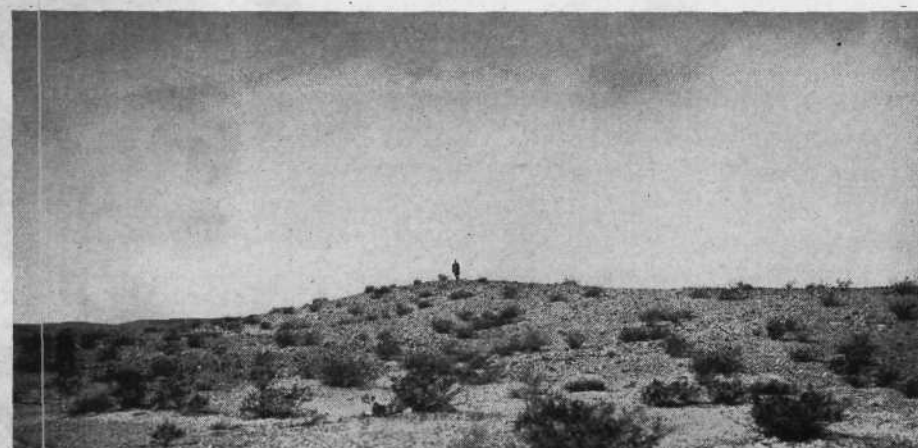
The minerals of which the rocks are composed do not all expand alike. As a result, we can imagine some rock such as granite actually *squirming* as its component crystals of quartz, feldspar, mica and hornblende heat up and crowd one another and then shrink back into their original positions as the rock cools. In short, there are many ways in which rocks may be broken naturally. But the type of rock breakage which fascinated me and which occurred so frequently, didn't fit into the picture.



*Upper—Lightning-spalled water-worn cobble of pink quartzite in place on the pebble mosaic. The spall A, which was found beside the larger piece has been replaced for photographing. Point of impact is at B. Specimen weighs about 20 pounds.*

*Lower—Lightning-spalled block of blackish rhyolite. Rock was thickly coated with desert varnish. Point of impact at A. Here chips of desert varnish have been flaked off by the lightning stroke. Photos by T. G. Kennard.*

*Typical scenery among the low foothills of Calico mountains, near Yermo, California. Lightning spalled boulders were abundant near summit of the hill. The ground is a mosaic of rocks which after a rain show many brilliant colors. Kennard photo.*



These broken rocks ranged from boulders the size of a water bucket or smaller to rocks as big as a horse. All were cracked and shattered as if by a single blow from a giant's hammer. How it happened was a mystery. Shorty, the "character," had an explanation for everything, even things about whose origin he was practically as ignorant as myself. The exasperating part about Shorty's explanations was that they were just reasonable enough to be plausible. But I couldn't be sure they were the correct answers. It was like drinking alkali water on a hot day—they wouldn't take hold.

His solution to this rock splitting problem was what he called "joint faultin' and wedgin' action." According to his theory, some small crack naturally happened to be in the right place. This crack filled with sand and dirt. Under the action of moisture, heat and cold and years of dessication, the crack would open wider and wider and finally large chips would break from the rock and fall into the crack to act as wedges. The rock never had a chance to settle back into its original position. Each change was for the worse, the wedges sinking lower and lower until finally a point was reached where no rock could take such punishment any longer and a split boulder resulted. This theory of Shorty's never satisfied me and always was the excuse for an argument.

We seldom agreed as we moseyed along expounding our theories. In the case of the split boulders, I pointed out that while his solution might work for big rocks when their split faces showed evidence of centuries of weathering, how about small dense rocks without the faintest sign of an original break and with neat, clean, new looking broken faces. Here Shorty was apt to change the subject.

These mysterious rocks often occurred in places where there was no chance that the agent causing the breakage could have been human. Much to Shorty's amusement, I spent lots of time contemplating these split boulders. They all had been broken by a single stroke. This was evident from the fact that always at some point on the upper surface where I could fit the pieces together, just a few chips had been knocked off over a small area, sometimes no bigger than your thumb-nail. These rocks remained a puzzle—a cipher written by Mother Nature.

Ciphers always have fascinated me and I never forgot those split rocks of Arizona. Years later, when my chief interest crystallized around the subject of geology, particularly the geology of the desert, I planned a systematic campaign against this problem. Finally, a few years ago, working with Ted Kennard of Claremont colleges, we broke the case. It was detective work of the toughest type.

Geology and geochemistry are more like criminology than any other of the



natural sciences. I say this because I work in both fields and know the rapport of these subjects. In geology we have to deal with that tough old character Mother Nature and her gang whose aliases are vulcanism, pressure, heat, cold, solution, oxidation, wind erosion—a whole string of tough stooges. Fortunately, these agents sometimes are careless and leave evidence that may give away the entire story of some event in which one or more of them is under suspicion.

Both geologist and criminologist have to interpret evidence but first they must have a *corpus delicti* or fact that something untoward has taken place. For example, a prospector may report that in some hidden canyon, the rocks are so full of radium that they glow red hot at night. This is interesting and important if true—but he doesn't bring any samples to bear out his story. In this case there is no *corpus delicti* and speculation is useless.

Evidence consists of anything apparently connected with a problem. None of it can be discarded until rigid examination has proved it to be unrelated to the case. The use of the evidence is like fitting together a lot of pieces of a jig-saw puzzle which contain most of the picture you are trying to put together, but the problem is almost certain to be confused by the fact that there are other pieces which belong to a different picture entirely. These have to be eliminated. Eventually, the pattern of the case begins to show and like finishing a jig-saw puzzle it generally ends with a rush. A few pieces still may be missing but there will be enough interpreted evidence to convict some particular agent.

In the lightning spalling case, Kennard

and I concentrated on a single locality where such split rocks as I had seen in Arizona occurred abundantly. The locality is about 7½ miles northeast of Yermo, California, where the foothills of the Calico mountains are strewn thickly with cobbles and boulders of red and yellow jasper, chalcedony, rhyolite, limestone, clay-ironstone and silicified volcanic ash locally called flint. Now and then there occur well rounded, water worn cobbles of pinkish quartzite but these are not common. All these rocks were on the surface or slightly embedded in the pebble mosaic. Certain features at this locality made the case very difficult.

In many instances, around a shattered boulder, a circle sometimes as much as five feet in diameter would be covered with chips and spalls of broken rock. Examination of these pieces showed that they had been retouched and experimented with. Obviously Indians at some time had been at work roughly blocking out raw material for knives, spear heads and arrow points. These pieces had been discarded on account of some defect which only the eye of an expert could detect. Generally, at such sites, hammer-stones with battered ends further endorsed this evidence of human agency. But in other cases, where flakes and spalls were abundant, there was no sign of human activity.

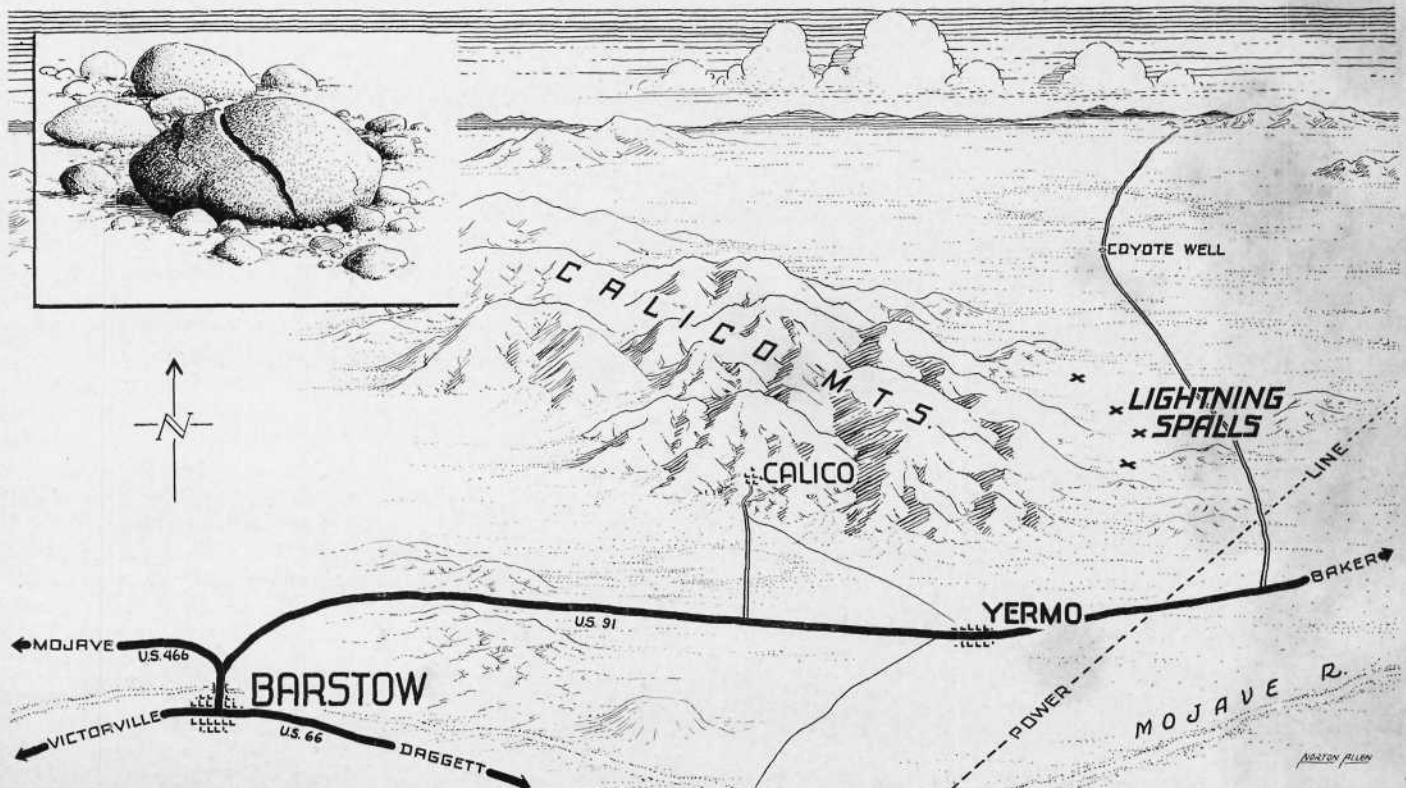
There were shattered boulders surrounded by flakes, many of which looked like raw material for good knives and tools, but there was no evidence of retouching or evidence that they ever had been moved from the place where they fell when first split off the rock. Many of these rocks showed new-looking breaks as if

they had been broken for only a few months—no chance that Indians had been the agents in these recent cases.

There is a curious thing about flint and flint-like rocks. Long exposure to the weather develops a patina or dullish look to the surface. Newer broken faces, originally bright and glassy, become duller and duller as they age. Archaeologists, if they know the original circumstances and surroundings at the time of discovery, can estimate fairly well the age of an artifact by its patina. Flakes and spalls at the Yermo locality showed everything from bright and shiny to dull and chalky surfaces.

Not only boulders of good solid flint but chunks of worthless rock like limestone and clay-ironstone had been shattered in the way I described—by a single blow. The broken rocks of the mysterious types were both large and small. One specimen, which weighed about 12 ounces and was about 5 by 3 by 2 inches had been shattered in such a manner as to eliminate any human factor. On its upper side, at a point near the center of its flat surface, there was a definite point of impact. But despite its relative thinness the rock had not been broken in two. Instead, five radiating flakes had been knocked off and were found close by. These were collected and replaced on the rock where they fitted so neatly together that it was almost impossible to detect the joints.

Due to their uniform and exceedingly fine grained structure, such rocks as flint, obsidian, jasper and many others have some peculiar qualities. When one of these rocks is broken by impact a definite signature as to what has taken place is left.





*The author points to the bulb of percussion on a lightning-spalled boulder. When lightning breaks a rock, two points of impact develop, one where the lightning strikes and the other on the bottom where the rock rests on the ground. Photo by Helen Lauder milk.*

From the point where the hammer strikes the rock, actual waves or rhythmic vibrations are set up in the rock-mass itself. They travel outward and downward from the point of impact and eventually—actually in just the fraction of a split second—cause the rock to shatter into two or more pieces.

If you examine one of the broken pieces you will notice several things that are interesting after you know what it all means. At the point of impact, one of the pieces will show a small rounded hump. Archaeologists call this the "bulb of per-

cussion." Extending outward from this point you will see grooves or ripple marks which sometimes look like the ridges on certain types of clam shells. This is called the "conchoidal fracture." There are five or six other signs of fracture by percussion which are of interest to experts but the two I have mentioned are the main ones.

We found that there was a distinct difference between the breakage of the boulders which had been broken by the Indians and the mysteriously shattered rocks. Rocks broken by simple impact show a single bulb of percussion, while the

strange thing about the questionable rocks was that they showed two, one at the point of impact and a second on the opposite side where the rock lay on the ground. You can't very well hit a large rock on both sides at the same instant, but this was what the evidence said had taken place. Rocks, no matter how big, had been split by a single blow. This was too much for any human factor and definitely exonerated the Indians, so they were eliminated from our problem.

After months of study and severe cross-examination, some of the better known suspects—cold, daily changes in temperature, oxidation of such minerals as pyrite and hydration—were cleared. The evidence pointed toward a tremendously powerful agent with a short temper, who struck only once—and *hard*.

Since the rocks which showed this particular type of breakage, the *corpus delicti* in our case, occurred only on the highest points of the hills, the finger of suspicion was beginning to point toward lightning as a likely cause.

Lightning's record was not entirely clear. Dr. Eliot Blackwelder of Stanford university has something to say on the subject and Dr. F. X. Schaeffer of the University of Vienna mentions the possibility but does not go into detail. However, up until the time Ted Kennard and I took this case under consideration, nobody ever had settled the subject experimentally. We would have found this impossible had we not had the heartiest cooperation of Dr. A. W. Sorenson and his associates at the High Tension Electrical laboratory of the California Institute of Technology. We had to have some samples actually struck by lightning and then look for any evidence that might match that found on the naturally broken rocks.

So we collected rocks of all the types we had found mysteriously broken at the Yermo locality and took them to the electrical laboratory for the crucial experiment.

Twenty great condensers, each capable of being charged to 50,000 volts by a powerful generator were brought into action. The discharge was capable of a maximum voltage of 1,000,000 volts but the stroke probably took place at a lower potential which varied from 350,000 to 700,000 volts. We were told that this was comparable to a small lightning stroke. While this synthetic lightning was relatively weak, it was sufficiently powerful for our purpose.

The Yermo samples were subjected to the artificial lightning discharge one at a time. Each specimen was placed on a wooden stand, a wire grounded the specimen by contact with the under side. The upper wire, through which the current was led toward the rock stopped short about

*(Continued on page 12)*



Lon Megargee once thought he'd like to be an arty artist, complete with smock and beret. But there were two obstacles—his own nature and that of the Arizona-Sonora desert. They both made it inevitable that his ideas and expression of them be honest, bold, unconventional. Now, he snatches out a brush as if he were lifting a six-gun. When he fires, the results are much the same. But through all the audacity or tragedy or humor flows an imagination which makes this cowboy-caballero one of the "first" painters of the desert scene today.

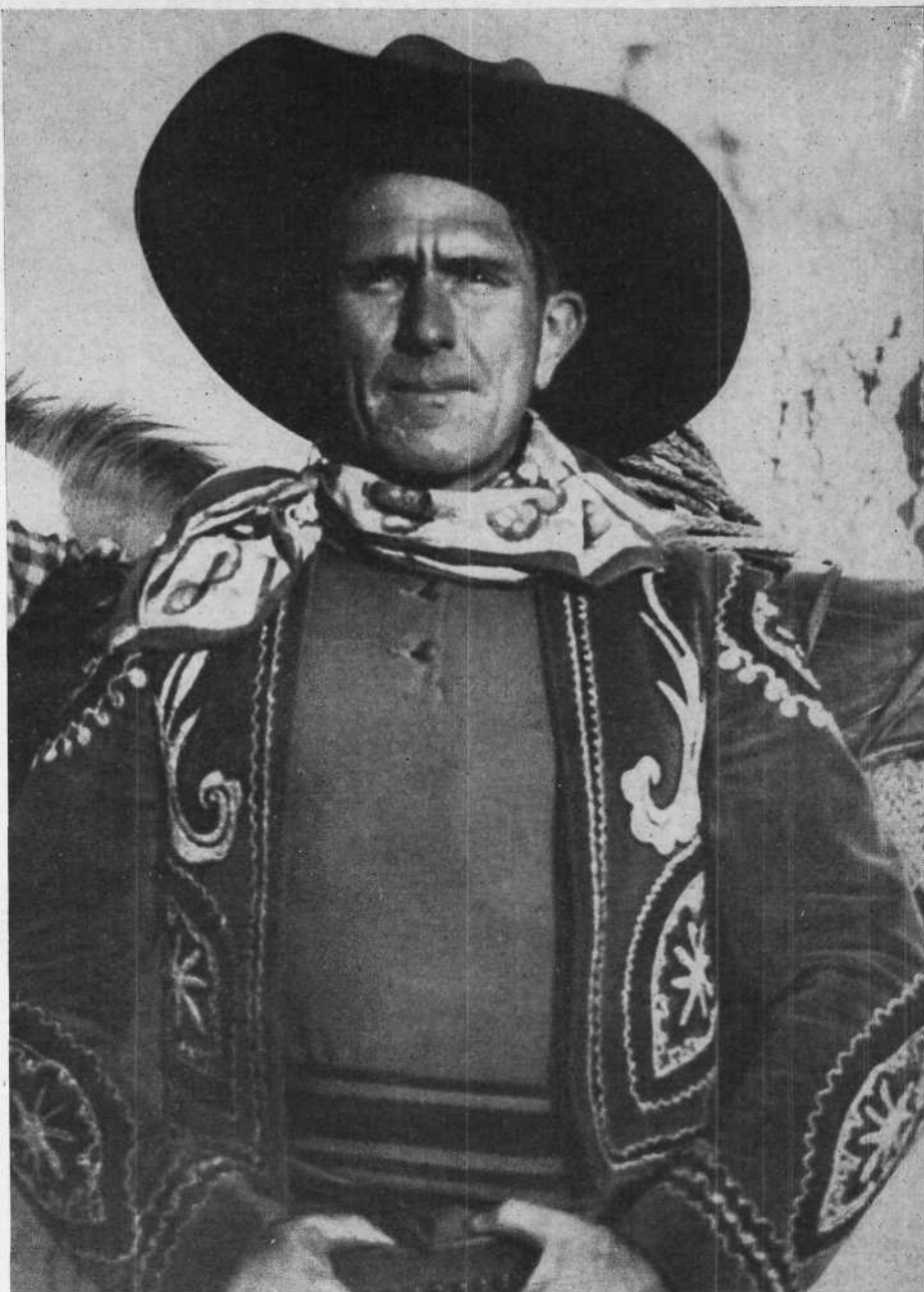
# His Art is Lusty and Bold

By OREN ARNOLD

A LOT of people like Lon Megargee and a lot of people don't. The ones who don't usually are hypersensitive souls who have to be coddled. Lon coddles nobody, himself least of all. He is the husky lusty he-man sort who has many of Rhett Butler's qualities. In 1843 he would have made a magnificent pioneer, seeing and exploiting the picturesque character of this desert land. In 1943 he sees it and exploits it anyway—in oil paintings and sketches and block prints. He is one of the boldest artists the desert region is likely to produce, and one of the most interesting individuals. I am one of those people who like Lon Megargee.

I like him very much. I enjoy seeing the man's florid personality etched into the canvases he brings to town. For one thing he isn't "arty." I'm not quite sure what this means, but I think it means that his pictures aren't merely "pretty." Some artists go in for prettyish paintings, delicacies and dainties and sweetly sentimental little interpretations. Not Lon! That caballero snatches out a brush as if he were lifting a six-gun. When he fires, the results are much the same.

I do not imply that his paintings are gory or tragic. On the contrary, they are more likely to make you guffaw. You



*Lon Megargee likes to wear Mexican clothes.*

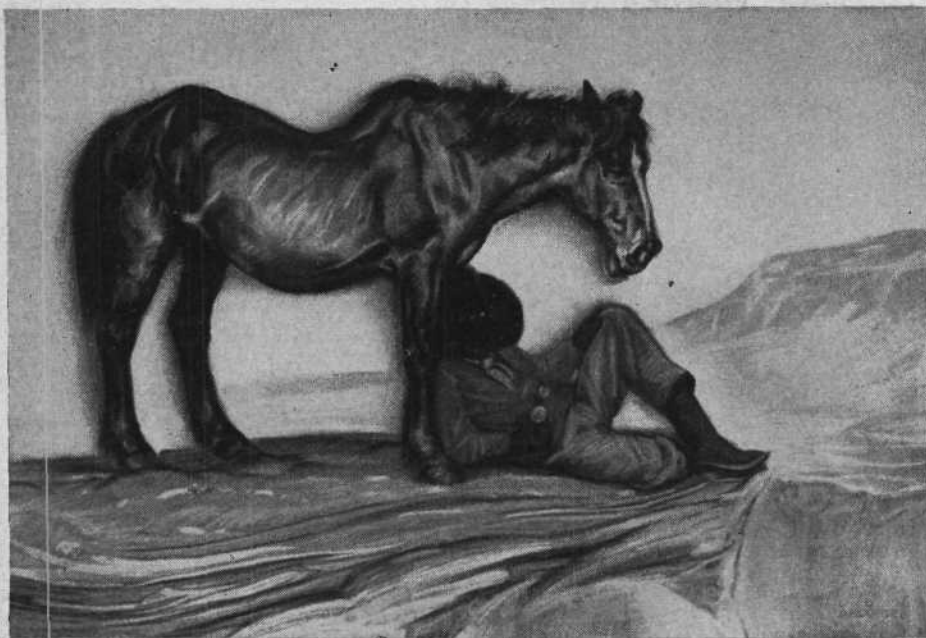
do not hang them in Aunt Minnie's sitting room or in the Y.W.C.A. You hang them—if you can afford to buy them, which I can't—in the living room of your Western pueblo residence, in your big pine log lodge, in your dude ranch headquarters, in your Spanish hacienda, or over the bar in your million-dollar desert hotel. I have a few of his prints (gifts). Some are tacked on my knotty pine walls, and one hangs in my bathroom. All are very appropriately located.

Lon is a genius who loves ruggedness in scenery, in people and in art. He sees model value in the ugliest Apache Indian on the reservation. He sees not vulgarity, but beauty of color and form in the other end of a horse. He shows cowboys doing unconventional things, Indians doing unconventional things, the desert itself in

unconventional mood. Lon stalks about Arizona, his home state, seeing and recording the extraordinary nature of the land and of the people who live there.

But too, Lon is incurably romantic. Like most stern but honest men, he is a sentimentalist at heart. It has shown dramatically in his personal life and it shows strongly in his paintings, especially his murals. In the fiesta room of a swanky Western hotel, for instance, the four long walls are a Mexican landscape with life size figures doing things in the glamorous manner of the señoritas and dons. I can stay there by the hour just staring at those walls, nourishing my imagination. It comes in exceedingly handy when I have to sit through stuffy speeches at a banquet there, as often happens.

One of his intriguing canvases depicts



*"So What?" is title Lon gives this painting of a cowboy and his sway-backed horse.*

notorious Billy the Kid fleeing from the sheriff—and I long have been in love with that lovely, shapely, devoted little maiden who clings behind Billy on the saddle as he flees. In real life Billy had no such maiden, possibly. No matter. Lon Megargee thought he might have had, and so do I. I have no use for artists or other individuals whose thoughts and expressions are not stimulating, who will not cultivate that ineffable quality we call imagination.

Lon gets the same general effect when he depicts a colt and a mare and a stallion, or simply a sleepy cowboy leaning against a swaybacked horse. He gets it—surely!—when he paints an Indian man driving a

tractor under an umbrella while his wife labors and sweats with the heavy plow behind. He gets it when he shows in bold close-up a gay ranchero about to hang up his saddle and pick up his guitar. He gets it when he does an oil montage of Tombstone, the boomtown, with the Bird Cage theater, Wyatt Earp and his pistols, the Benson stagecoach and two of the Clantons hanging by their necks. Imagination. The priceless ingredient—far removed from mere technical skill with paints and brushes—which many so-called artists never have.

We can be sure of one other thing—Lon Megargee has had a good time in life, no matter where he happened to be. It

*Lon likes to imagine that Billy the Kid fled the law in this romantic fashion.*



shows in nearly all his paintings. His "deep, studious interpretation" of ranch routine? There'll be a wisecrack sketched in somewhere! Or a bit of cowboy humor, or that extra something we call humaneness. His studies in old Mexico? They're magnificent. They depict the poverty-ridden peon, the squalor, the toil. But quickly, too, they include the click-clack of castanets and the songs of fiesta. Life is not bleak to Lon. Even his famed "Home on the Range" and his "Camelback Mountain," both lithos now in third large printing, are gay with the brilliant Western color and liveliness, never austere.

Honesty and imagination and a gay heart—these are the three things any creative artist needs. There was a time when Lon thought he wanted to be an arty artist. Even one of the kind with a smock and a beret. He probably went all-out serious in that formative period of his career. And he produced quite a few canvases.

Unfortunately artists have to eat, even as you and I. Nobody was impressed with Lon's serious paintings. After friends charitably purchased a few for 10 dollars or so, Lon knew he still had to maneuver for groceries. So, he threw convention over the sideboards.

"I'll eat first, then paint," said he. "It ain't romantic to starve no matter what the story tellers say. And on a full belly I can paint as I please."

Upshot of that was a long period of world travel and adventure. It took him to Spain, to Tahiti, to the American northwest, time and again into Mexico, ultimately into Arizona. Somehow the Arizona-Sonora region most fascinated him, perhaps because it was colorful and democratic to the core. "On the desert," says he, "I just seemed to belong."

Formal occupation, if any, was that of cowboy. Cowboys earn up to \$50 a month, and grub. He had known a first taste of cowboying years before when he ran away from a Philadelphia home to seek his fortune and landed in the Southwest. After the period of drifting he simply came back here. The border region is like that. It gets into your blood, breaks out with an itch if you leave it, makes you head right back to the cactus land. Nothing in the world pricks the imagination like a saguaro cactus thorn.

In Mexico Lon did a lot of figurative and some literal hell raising. Typical Megargee instance—a woman back in the states contended he owed her money. He thought not, but she harrassed him. On sudden whim one day he sent her a great wad of money by mail—but it was Pancho Villa money, when that famed bandit was in swing!

Lon talked a Mexican cowboy out of a



\$300 bridle, a gorgeous hand-tooled creation of finest leather and silver and gold. He used it a while and it disappeared. Lon could guess who stole it, but couldn't prove anything. Some time later, though, Lon was standing in a second hand store in Nogales when the Mexican cowboy—in need of cash—brought that same stolen bridle in to sell! What happened? Well, Lon weighs pretty near 200 pounds, and the bridle was hanging—last time I saw it—on the wall of his living room in the Megargee hacienda near Phoenix, Arizona.

That hacienda, by the way, is a resplendent Megargee work of art. Lon wanted something from the old Southwest, a home just like the Spanish rancheros had. He thought he might sell it at a profit, and ultimately did so. But for a long while he lived there, and he made a lot of it with his own hands. I called there one day, for example, and found him pouring ashes and oil down the front walls.

"What in the high hopping hades are you doing that for?" I demanded.

"I'm adding three centuries to a brand new house," said he.

And so he was. Within a week that fresh plaster was venerable with age. All the paint, all the woodwork and stone and roof and everything, even the squeaky carreta outside, were items from the 1600's. Inside were souvenirs picked up in Mexican travels. On the walls were many of his finest paintings. I still think that house, on the desert near Camelback mountain, is the most picturesque dwelling in Arizona.

Lon Megargee never went to art school.

That is, he had no academy or college training, nor a teacher for his brushes and pens. He learned painting the hard way—by doing it. Self-made, I believe is the word Americans love.

Perhaps it would have been better if he had been schooled more formally. I think of another artist friend who went through all the usual paces—teachers, Chicago Institute, New York, Paris. He wasn't self taught at all, and he did well. His name is John Steuart Curry. But then, the difference between Curry and Megargee is the difference between farmer and cowboy. Curry is a conscientious son of the Kansas soil—determined, solid, rather plodding of mind. But Megargee—ha, that cowpuncher is likely to toss his pocketbook and conscience into the canyon and head right out to the nearest fandango! I do not belittle either one of them. I think each is a vital part of the American scene. I'm just telling you that a Megargee can interpret the West and the desert better than a Curry.



*Imagination and humor dominate this study of the "Mule Colt," with his mother and the stallion.*

Around Phoenix they say that Lon was broke flat as a horseshoe one winter, and he did a characteristic thing. He barged into the office of G. W. P. Hunt, then governor, and said, "Mr. Hunt, I need money. This state needs some good paintings. How about hiring me to do some for the state house here?"

George Hunt had a gambler's recklessness of his own, at times. "You think you could do a set of paintings worth \$5,000, Lon?"

Wow! Lon would have jumped at \$500. But \$5,000—!

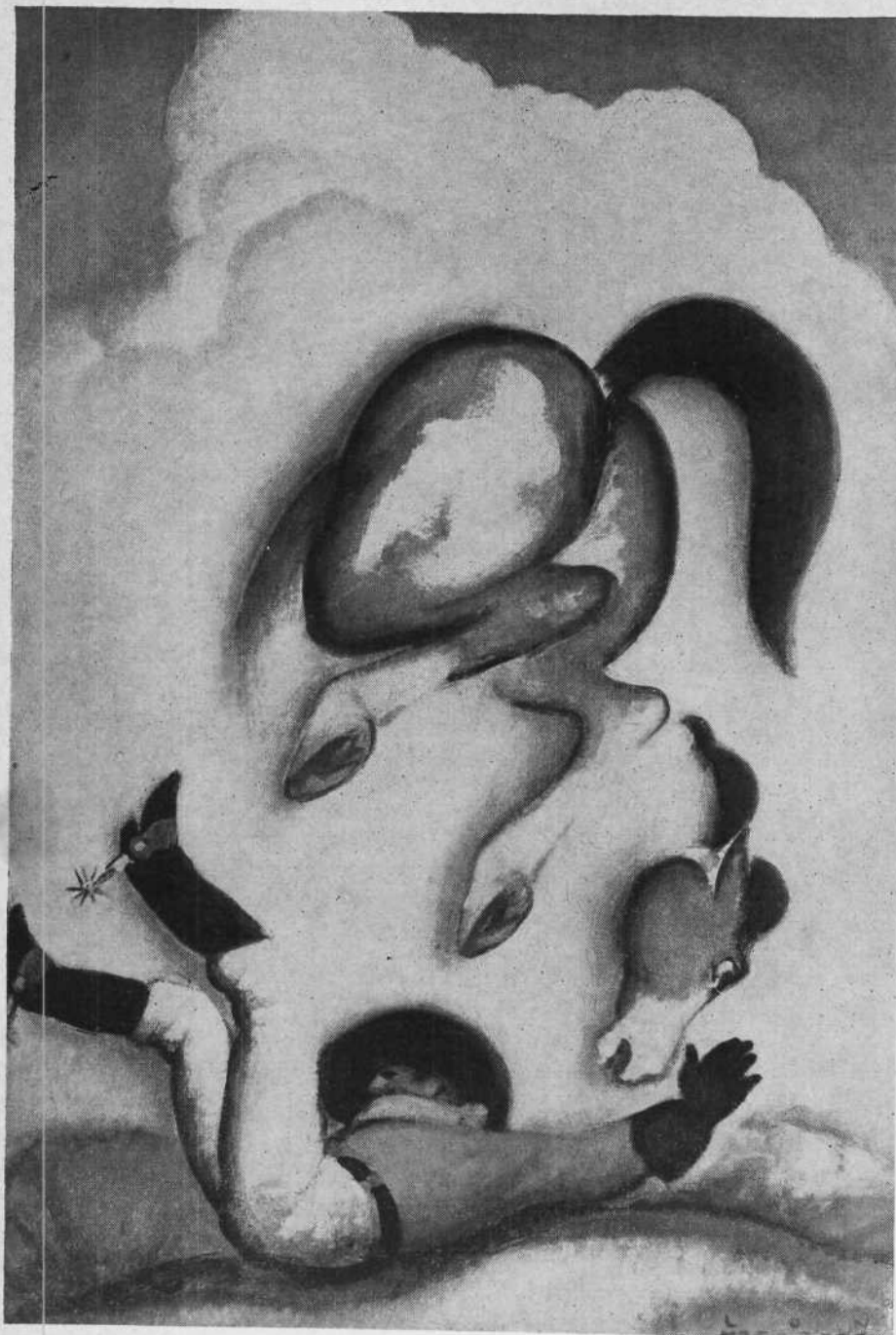
He took the job, and history chalks up a point for Hunt's shrewdness. The Me-

gargee paintings were worth the money in themselves, but far more than the \$5,000 is the worth Lon since has been to his state—just because one struggling chap needed a financial lift and got it.

Of Megargee incidents the telling could go on and on, but this is not the place for a full biography. Let's do record that he now is revising his book, "The Cowboy Builds a Loop." It is among the finest volumes ever produced in this desert region. Let's record that he is busy momentarily helping Uncle Sam win a war—as every patriotic American must be—hence his art is mainly his recreation until the victory parade.

*"Conservation" is a droll commentary on the meeting of two civilizations.*





*Capable handling of action and a superb sense of form are evident in Lon's "Busted."*

## CASE OF THE SPLIT ROCKS . . .

*(Continued from page 8)*

six inches from the top side. The artificial lightning had to jump this distance and struck the rock with the noise of 100 shotguns.

When lightning strikes in nature, a gigantic spark, sometimes thousands of feet long, bridges a gap separating two oppositely charged bodies, generally two clouds or a cloud and an object on the ground. While the stream of electrons composing the lightning flash actually represents an infinitesimally small amount of substance, the result is the same as a powerful blow from a solid object. The effect of the artificial lightning on our

rocks was precisely the same as we had studied in the cases of the naturally broken specimens. The skinning effect on thin rocks and the two bulbs of percussion on thicker samples were well shown.

There are two simultaneous stresses when lightning strikes, the first where the stream of electrons enters the rock and the second the "kick-back" when it leaves. These are of almost equal force and two bulbs of percussion result. While nothing solid hits the object struck we still have breakage. This is the result of local heating to a very high temperature over an extremely short period of time.

Any heated object expands and any area heated in a locally cool mass does the same—it takes up more space and acts as

a wedge. Breakage is in effect the result of a wedge of more solid substance driven into a hole in weaker material.

We had to have experimental evidence before we could positively say that heat was produced by the artificial lightning discharge. It definitely occurs when buildings are struck by natural lightning and are set afire. Pine trees actually explode from steam generated during the fraction of a second that it takes the current to traverse the trunk.

Here again, Dr. Sorenson and his associates helped us out with a difficult point. A small billet of hard maple about a foot long was boiled in paraffine so that it would not conduct electricity. A nail was driven into each end, these to act as terminals for the lead wires from the condensers, through the stick and into the earth. When the switch was closed and the thousands of volts shot through the maple stick it was blasted into three longitudinal sections. The path of the current was seen clearly as a scorched line on the split faces of the wood. Definitely, heat was produced in the short time it had taken for the spark to jump from end to end of a single foot of wood.

The heating effect was not always shown when the object struck happened to be a reasonably good conductor. A stick of white pine without the paraffine treatment was shot in exactly the same way as the maple billet. This also was split but there was no evidence of scorching. The track of the electrons showed as a neat clean groove about one-sixteenth of an inch deep following the grain of the wood from end to end. What had happened here was this: the billet contained enough natural moisture to make it a reasonably good conductor and being white pine, which is softer and more splittable than maple, it actually blew up from the steam suddenly generated.

That extremely high temperatures are capable of breaking brittle substances such as glass by instantaneous contact was proved in our laboratory. We applied the tips of both the blow pipe flame and white-hot carbon rods to thick glass bottle stoppers and obtained on a small scale precisely the same effects we had seen as the result of both natural and artificial lightning. In one case we produced the skinning effect and in other cases deep cracks developed.

So, after we had collected all our evidence and verified our suspicions, lightning stood convicted as the agent that goes about over the waste spaces of the desert breaking rocks in a peculiar manner, to the confusion of geologists and archaeologists. The whole story with all the details is to be found in the American Journal of Science, Vol. XXXV, February, 1938, "Concerning Lightning Spalling"—as neat a piece of detective work as ever came out of a geochemical laboratory.



First prize winning story in Desert Magazine's personal experience contest appeared in December, 1942, issue. This month the seventh story in the series is being published, with two more to follow in later issues. This is an episode in the life of Ethel Caughlin during the days of Apache raids on settlers in New Mexico, as told to Helen Pratt.

# Apaches Scalped My Doll

By HELEN PRATT

Drawing by John Hansen



*"Realizing someone was trying to attract their attention, my father and uncle came up to the top of the mine to investigate."*

ETHEL Caughlin was looking out over the wide sweep of Baldy Mesa as it lay stretched under the burning afternoon sun on the southern rim of the Mojave desert. I had reached her tiny home, almost hidden by scrub oak and juniper, after turning from the highway onto a rough dirt road that wound in and out among squat desert shrubs and jolting over its ruts and washouts. Now as we stood looking across the mesa memories of her childhood in New Mexico came flooding back.

"The view from here always reminds me of the rolling hills and mountains of New Mexico. And of the experiences there that left a lasting and deep impression.

"Although many years have passed it seems only yesterday that the Apache Indians swept down upon us, with all the slyness and cunning imaginable. Like a band of naughty children, fearing to attract the attention of the soldiers, they would sneak off the reservation to annoy and frighten the white settlers."

Instantly I became curious to know more of her story, and begged her to continue.

"Of course, they are very different now that they are educated and understand our ways," she prefaced.

"Our homestead was on the outskirts of Silver City. A large double house of adobe, its huge fireplace in the front room making it comfortably warm through long winter days. There was a delightful wide

porch running around the entire house where cool breezes found their way in summer.

"A beautiful natural lawn of short wild grass stretched away to the edge of the mesa and valley, where acres of white delicately scented Matilija poppies withered and scattered to the winds in a few days.

"In the evening while the mocking birds filled the soft air with their song, my brother and I would go into the poppy fields and gather baskets full of the white petals, and have a rollicking imaginary 'snow battle.'

"Bush after bush of golden rod, that seemed to have absorbed all of the sunshine, lingered, brightly glowing, in the long summer twilight. I still shudder when I recall how the beauty and serenity of that peaceful countryside so often was disturbed by the childish pranks and ruthless depredations of the Indians.

"Our family consisted of my father, mother, my brother and myself. Having been brought up in a rough country, we all could readily endure the hardships of those early days.

"Father was a mining man, owning several mines, both gold and precious gems. The gold mines were in the Bear Mountain district, which was highly mineralized. The turquoise was in a different section of the country.

"This exciting incident happened when the Apaches were especially hostile to the

white settlers." She looked at me with a twinkle in her dark eyes, remembering the day.

"Summer vacation was at hand, and father had bought two Indian ponies and a buckboard for us. One pony was a pinto, black and white, the other was all white. We were tremendously excited as we gathered up our belongings and started off merrily for Pine Dell, where we had a cabin and could be near father at the mines.

"Most of us know how sweet and tasty a freshly pulled turnip can be. Brother and I had planted a patch in order to make a few extra pennies for our church, as everyone was helping, and brother had built a water wheel in a nearby stream to irrigate the garden. We also had chickens and had stored many eggs to be taken into town later.

"Then one day while still at Pine Dell, father and mother had an unusual argument, mother hitched up the buckboard much to our disappointment, and bundled us off to town.

"Upon arriving there we found a detachment of soldiers encamped on the flat just below our home, and we learned that they were expecting trouble with the Indians.

"In mid-afternoon, the soldiers departed in the direction of our cabin at Pine Dell, and mother became alarmed for father's safety. She again hitched up the

buckboard, taking brother and leaving me, and started back to Pine Dell to warn father.

"They followed the soldiers until one of the officers discovered them, and insisted upon their turning back, as it was too dangerous, but mother's explanation of father's danger and her determination to go to him, won the argument. Mother was a tiny person, but courageous, and Indians meant little to her when father needed help.

"In the meantime, father and my uncle were working down in the mine when they heard a small stone drop down the shaft; then another and another. Realizing that someone was trying to attract their attention, they came up to the top to investigate, and found a man from the mountains, who was much excited, saying he was warning all the settlers that he had seen Indians approaching, and fearing to call down to them lest he be heard and attract them to the spot, used the rock system.

"By the time father was ready to leave, the Indians had raided a cabin not far from ours, killing some beef that belonged to the settlers in the valley. He became alarmed, fearing that his little family might be overtaken and attacked on our way home. He immediately set out to walk into town. My uncle remained there to be of such assistance as was possible.

"Presently they met father, hurrying along the road. Grateful and happy that they were all safe, they drove back to Silver City.

"We learned afterward that a Mexican woodcutter and his wife, who lived nearby, had fled into the woods, leaving their children, a small boy and his sister, also a tiny three weeks old infant, alone in their cabin.

"The Indians came nearer and nearer, pillaging everything in their path, and in their terror, the Mexican children hid the baby under a mattress, and ran into the woods. The Indians killed the baby, and this made such a frightening impression upon my child mind, that I sank sobbing into mother's arms.

"The small Mexican boy, failing to find his parents, made his way afoot into Silver City, quite a distance from Pine Dell, carrying his little sister upon his back. A heroic act for such a small child. They both were exhausted, hungry and weeping, but were well cared for by the settlers.

"The soldiers quickly quieted the uprising, and the Indians soon were on their way back to the reservation.

"We all gave thanks that we were safe at home together, then drove back to Pine Dell to see what damage had been done to our place.

"The first thing that my brother and I saw was our prized turnip patch. The Indians had ridden their horses back and

## TRUE OR FALSE

Here's an easy review lesson for those who have been reading *Desert* each month. If you are a newcomer to the Desert Fraternity, taking this month's quiz will be a good way to find out if you are a tenderfoot. If you score less than 10, you need *Desert* badly! If you chalk up 10 or more, you can call yourself a Desert Rat; if 15 or more, take your place among the Super Desert Rats known as Sand Dune Sages. Answers are on page 28.

- 1—Father Kino was the first of the Franciscan friars to establish a mission in Arizona. True..... False.....
- 2—The desert sidewinder (horned rattlesnake) seldom grows to a greater length than two feet. True..... False.....
- 3—Formation known as The Temple on Lake Mead is found in Iceberg canyon. True..... False.....
- 4—Refuge for thousands of white pelicans is in Pyramid lake, Nevada. True..... False.....
- 5—Garnets sometimes are called "carbuncles." True..... False.....
- 6—Panamint range forms the eastern boundary of Death Valley. True..... False.....
- 7—Monument Valley, though usually approached from Arizona, lies wholly within bounds of Utah. True..... False.....
- 8—General Kearny was in command of the Mormon Battalion, which marched in 1847 from Leavenworth, Kansas, to San Diego, California. True..... False.....
- 9—Most of the mineral wealth that came from Calico mountains, Mojave desert, during the boom period was silver. True..... False.....
- 10—Mark Twain once worked on a newspaper in Goldfield, Nevada. True..... False.....
- 11—Shiprock, famed landmark, is on the Navajo Indian reservation in New Mexico. True..... False.....
- 12—Fossil coral is found in the desert. True..... False.....
- 13—Gas and volcanic disturbances make it hazardous to descend into Amboy crater on the Mojave desert. True..... False.....
- 14—Desert Trumpet belongs to the buckwheat family of plants. True..... False.....
- 15—Western burrowing, or Johnny owl, makes no sound. True..... False.....
- 16—Alamogordo, near White Sands national monument, New Mexico, is on U. S. highway 66. True..... False.....
- 17—Gold is found along the Colorado river. True..... False.....
- 18—In firing their pottery the pueblo Indian women of the Southwest generally use cedar wood. True..... False.....
- 19—True onyx is a variety of agate. True..... False.....
- 20—Papago Indian children climb the saguaro cactus to gather the fruit. True..... False.....

forth over it until nothing was left of our cherished garden but a mass of trampled mud.

"They had not burned the cabin, but had ripped open mother's fine feather mattress, then had broken all of our stored eggs into it and stirred up a most terrible mess. Under the strain, mother burst into hysterical laughter at the sight of this, but brother's toy gun lay broken, and he couldn't laugh.

"Nor could I, for the greatest tragedy of my childhood days swept over me when to my horror I discovered my beautiful wax doll, the only doll I had, lying prone upon the cold hard cabin floor, entirely scalped, her lovely golden curls torn from her head and carried away.

"My heart began to pound wildly and I experienced all the pangs and suffering a young mother could have felt for her

only child in such a plight, and there was Oh—! such a pain, right here in my 'tummy,' " she explained, in little girl fashion, "and I wondered how any one could possibly be so mean and wicked."

For a time, Ethel Caughlin sat very still. The hour was growing late. The bright rays of the setting sun had painted a gorgeous picture. The first stars of evening swung low, and the cool night wind whispered clear and sweet, as if wafted from the mid-most sea, into a light that has a thousand variations of color and shade. Infinite space, in which the soul may grow and expand.

"How far removed from the past I seem to be," she said softly. "Just why I remember it all so vividly, I cannot tell. The Indians too, loved the great wind-swept desert, and the 'Great Spirit' of the red men still broods over us all."



# Desert Refuge

By MARSHAL SOUTH

IT WAS early morning in the little town of Mesquite, Nevada. As I entered the cafe to get a cup of coffee his was the first face I saw. He sat at the counter snatching an early breakfast. It was obvious that he was one of the passengers on the bus parked at the curb outside. We never had set eyes on each other before. But he hailed me with the enthusiasm of an old friend. "Come, sit here," he said affably, indicating an empty stool at his side. "Have a cup of coffee on me! Have breakfast with me as my guest! . . . Come. Come on. Please," he urged, as I hesitated. "This is my treat. Really. I want you."

His face was alight with enthusiasm and a sort of boyish eagerness that was compelling and would take no refusal. As I slid into the seat beside him he patted me genially on the back. "I'm feeling facetious, this morning," he said, grinning in explanation of his joviality. "For once in my life I'm thoroughly happy. I'm on a trip—on a vacation. The first one I've had in a long time. And I'm just going to enjoy myself in my own way. What'll you have?"

"Just the coffee," I told him. "I've been driving all night. Got to keep awake."

He nodded. "But something with it," he urged. "Some of these crullers . . . Something . . ."

"Well, a couple of donuts, maybe," I conceded.

"Donuts. Donuts. Make it donuts with the coffee, too," he waved the order genially after the demure little Mormon girl as she departed. They did not understand him, these grave, wholesome little desert misses who waited upon the cafe customers. But I did. We grinned at each other as old friends. His eyes roved over me appreciatively. "You fit this country—the desert," he said frankly.

I had been on a long hard scouting trip, alone. Tanya and the youngsters had been left safely established in a camp by a waterhole and now I was on my way back to them. The journey had been tough and hot and sleepless—and punctuated with more tire trouble than I cared to remember. I wasn't feeling particularly picturesque. Nor did I care, at the moment, whether I "fitted the country" or not. I ran appraising fingers over a ten day bristle of beard and grinned at him wryly.

"But that is nothing!" He waved the matter aside with a dismissing gesture. "It is the spirit that counts. The fitness. And you are particularly part of this desert scenery somehow. Look! Isn't it strange that we should meet! Here am I—sixty-six years of age—and released for a few days for care-free vacation in this desert that I love. And we encounter each other. Ah, this wonderful desert. You know, in the writings of George Wharton James . . . his Indian blankets . . . baskets . . . Perhaps you knew him?"

Yes I had known him. "And Charles F. Lummis? You remember him too, maybe?" I suggested.

His face lit like a lamp. "Knew him well. Ah . . . the old days. You remember on the Los Angeles Times . . ."

We were off. The puzzled and a little scandalized young lady brought the coffee and the donuts. But they went untasted as did my friend's breakfast. What are such things as breakfast and coffee when two kindred souls bump into each other like voyaging ships in the midst of the loneliness of a vast ocean. Such an eager comparing of notes. Such a digging and rum-



*Spines of this Utah cactus hold no fear for Victoria.*

maging in the precious memories of fled days. Was this Mesquite, Nevada? Or wasn't it? We had forgotten.

The passengers had all trooped out to their places in the waiting bus. The driver, seated apart at a little table writing up his notes and accounts, was the last to go. He swept his papers into his leather satchel and buckled it. As he passed the lunch counter on his way out he tapped my friend upon the shoulder. "We're leaving," he warned. "Better hurry!"

And my companion woke, as from a dream. He hadn't touched his breakfast. There it lay in the platter before him. A crisp salad, fried potatoes—an assembled appetizing combination of different foods. But all, fortunately, things that could be transported. Frantically he signalled to the little waitress and she came hurrying with waxed paper and a big paper sack. She swept the food together and packed it expertly in a jiffy. The bus outside tooted impatiently and my friend snatched the sack. "Your name," he cried breathlessly, lingering an instant with outstretched hand. "I don't even know your name."

I told him. In that hectic instant of parting, while the bus horn blew angry blasts, I mentioned the Desert Magazine. "Why—why of course!" he cried delightedly. "The Desert Magazine! I take it. Couldn't do without . . ."

He bolted through the door and was gone, plunging headlong for his seat just as the bus was backing out. The heavy motors roared and the dust skirled in the roadway. Then silence slipped down from the mountain tops again and he and his fellow passengers were just a memory, a fleeting blur whirling out along the desert highway on their way to Salt Lake City.

Mechanically I began to munch my donuts and drink my coffee. On the other side of the counter the demure little miss who had eyed us both askance passed, and paused.

"I think," she said disapprovingly, "that he had had a glass of beer."

"Maybe," I said. "And maybe not. There's such a thing as the intoxication of desert freedom. Did you ever spend long years a captive in the city?"

"No," she answered severely. "I never did."

And she went away hastily. "Two of a kind," her glance and actions said, more plainly than words. But I wasn't particularly worried over her reaction just then. For it had all at once dawned on me that I didn't know my new-found friend's name. In the whirlwind rush of parting I hadn't asked him. The realization was a dampening blow. And as I finished my coffee and went out again into the morning glint of the Nevada sunshine it was with a sense of loss. For I would like to know my friend's name and address. Perhaps, if this meets his eye, he will drop me a postcard. I hope so.

Rider and Rudyard have a new job to add to their already full list of occupations. It is tortoise herding. And if this sounds a little out of the ordinary—even in a world where strange trades flourish—you are to be informed that Don Antonio and Grandpa Tortoise, both vigorous representatives of the desert tortoise clan, have joined our establishment and travel right along with us.

And, being independent minded, as most desert dwellers are, neither Grandpa Tortoise nor Don Antonio take kindly to being whisked hither and yon in a smelly automobile. So to compensate, when on the road, the children take them on hikes at every camp spot and stopping place where time and conditions permit, herding them carefully through the cactus and creosotes and picking out for them the choice areas of pasture.

And Don Antonio and Grandpa appreciate these rambles. They are very tame and well used to the family. Their habits of ducking back into their bullet-proof vests on our approach have long since given place to an air of careless friendship and they stroll amiably around with us, sniffing for tid-bits among the dry sticks and munching at grass tufts and choice morsels of dust and gravel. A desert tortoise's taste in the matter of food is peculiar. He will turn up a scandalized nose at the choicest of greenstuff and go eagerly after morsels which would discourage even a burro.

Grotesque and comically lovable creatures, their speed is something to marvel over. A short period of observation of their ungainly but persistent gait is sufficient to give anyone a new appreciation of the "Hare and Tortoise" fable. And they are adepts at concealment. It is with risk that you remove your eyes from them for a single instant. For in that moment they are likely to duck into some cavity beneath a stone or a cactus and vanish utterly from sight—with your chances of locating them again slightly less than nil.

We sometimes think it must be very annoying to Grandpa and his partner, after they have indulged in a terrific burst of two-mile-an-hour speed towards the distant mountains, to be picked up and carried back to the starting point again. Sometimes, when they have tried to climb into impossible situations, up steep banks, and have rolled down and landed upside down, they give audible sighs of relief and gratitude when we turn them right side up again. Not that they particularly need this service—for the belief that a tortoise can't turn over when on its back is a fiction, as far as desert tortoises are concerned. But the turning process is hard and involves a terrific lot of effort and straining with outthrust head and legs, which they are grateful to be spared. It is interesting to watch an overturned turtle right himself, though. And sometimes it takes a long time. But he usually manages to do it. It is very possible that should he have the bad luck to find himself bottom side up in some depression or bowl-like hollow he would be unable to turn. But so far we have never found our pets in this fix. Ordinarily brother tortoise can take care of himself.

But he doesn't stand heat well. Like the rattlesnake he seems to have the peculiarity that the very desert sun upon which he thrives will prove his undoing if he gets too much of it, without adequate shelter. Ignorance of this fact caused us the loss of our first tortoise pet, Tiny Tim. The children babied him and fussed with him. He had a special traveling box, well ventilated and bedded with grass and leaves. That was the trouble. It was too warm. There was no deep, cool burrow to which he could retire. And one morning, after a particularly hot desert run of the day before, we found Tiny Tim dead. The children's grief was beyond consolation for a long while. Tiny Tim was buried with many tears in a desert grave among the creosotes near the jagged peaks of the Turtle mountains.

It gets hot on some of the desert reaches in summer. But the heat of different sections has very different qualities and reacts upon the human system in very different ways. Vegetation, or its absence, seems to play an important part in this. As do altitude, soil composition, nearness to mountains and to big bodies of water, and a number of other factors, many of them seemingly unrelated. The invisible "river channels" and "drifts" of the overlying atmosphere have tremendous influence on desert climates, being responsible for numerous climatic pockets and zones in the wasteland empire. And man himself, at times, with his works, steps in to upset the finely adjusted balance of the great "machine." There is little doubt that the assembling of a vast body of water as has been done at Lake Mead, has tipped the scales of climate strikingly. Especially in the former route and frequency of summer thunder showers. There are skeptics who scoff at this. But you don't have to go far to find abundant support from old timers as to facts. Nature-balance is delicately adjusted. It is swayable by far less obvious things than the tremendous evaporation from man-made lakes.

But there are other more simple deductions to be culled from desert summers. One of the most striking is that hot drinks are in their final effect, more cooling to the system than are chilly ones. It is not to be denied that the appeal of iced liquids on a sweltering day is very strong. And against them a hot cup of tea or coffee or a drink from a sun heated canteen doesn't pack much attraction. Yet the warm drink induces a profuse perspiration which sluices through the entire body and results in a much longer period of comfort. Besides being much more healthful than the shock of a chilly draught. The old Spaniards spoke with considerable knowledge when they wrote: "*En la tierra fria, agua fria. En tierra caliente, agua caliente.*" Which, in free translation, signifies that cold drinks are best for cold countries, hot ones for hot climates.

So don't worry if your summer draught from the canteen in the desert resembles a drink from the boiler of a locomotive. You'll have the satisfaction of knowing that it is more healthful than a cold glassful of tinkling ice water. And at least it won't be an insult to the intelligence, such as are the wanly cool swigs from the waterbags of paraffin-dipped canvas which some brilliantly inventive minds have lately placed upon the market. Some of us old timers who know what a *real* waterbag is, and the evaporative principle upon which it chills its contents, can only contemplate these new paraffined inventions with sadness and disgust, muttering the while into our desert scorched beards, "Ain't science *wonderful*."

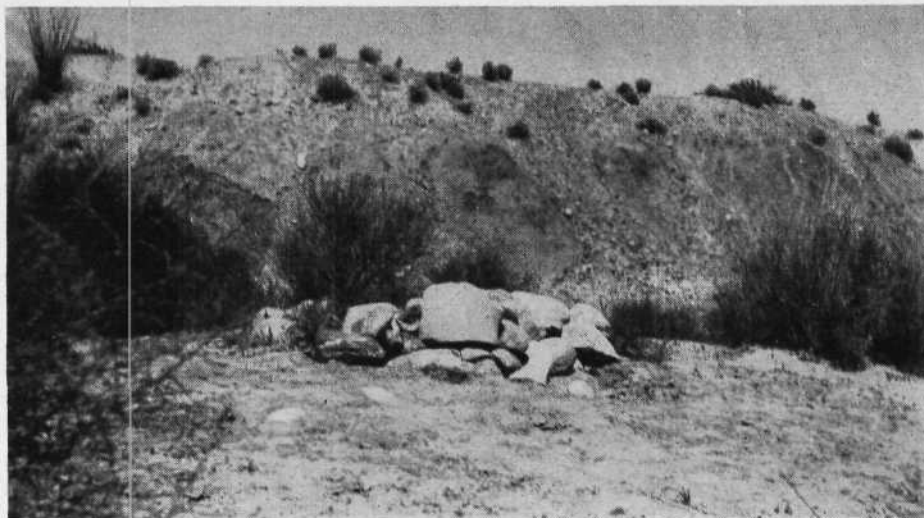
#### PERSISTENCE

*They only die who cease to strive.  
Each moment is a priceless jewel,  
Death is no whit the less alive.  
Then let each hour be added fuel  
Unto your striving for a goal—  
Cease not, rest not from your attaining.  
Persistence, as the seasons roll,  
Alone holds Heaven for the gaining.*

—Tanya South



# LETTERS . . .



*Frank Fox grave with new headstone.*

## **Vandal's Work Replaced . . .**

Jacumba, California

Dear Editor:

In the June, 1940, issue of *Desert* you had a story by Ed Davis, "Forgotten Tragedy of Carriso Creek," showing the headstone of Frank Fox' grave at Carriso stage station. The headstone photographed in the story was one inscribed in 1882 by companions of Fox. It was taken from the grave, perhaps by souvenir hunters.

An old friend of mine, Bud Sackett of Anaheim, while on a trip through the desert took the time to carve a new stone. We hope no one takes this one. Think Bud should be commended for his kind and thoughtful act.

HAPPY,

The Old Man of the Mountains

. . .

## **Geologist Impatient to Prowl . . .**

Washington, D. C.

Dear Sir:

A friend of mine sent me *Desert Magazine* last Christmas. Theoretically I'm a mineralogist. I am a native Californian and have spent a lot of time prowling around in the desert. Consequently you can readily see your "darned old" *Desert Magazine* only makes me homesick. And the more homesick I get, the more I look forward to the next issue. My back copies have been gone over so much they look like termites have been after them.

At present I'm engaged in geological work for Uncle Sam, but you can bet that as soon as the old world simmers down once more I'll take the first train for the Far West.

ROBERT L. SMITH

## **A Desert Rat Squeaks . . .**

Indio, California

Dear Desert:

Here's a squeak from a desert rat. Perhaps this report on things as they are might cure some lad suffering from nostalgia for the desert:

The peace of the desert's a thing of the past—

Don't return to us here while this darned war shall last.

You drive along back country roads, the tanks go clanging by,

The drone of airplane motors never leaves our desert sky.

You plan to make a camp beside a desert water hole

But the challenge of a sentry halts you e'er you reach the goal.

You climb familiar hills and as up the trail you creep

You oft times step behind a rock to dodge a charging jeep.

The Colorado desert "hath suffered a sea change,"

And every favorite stamping ground is marked "artillery range."

Our pastel colored mountains are still waiting there, we trust,

But the army's on maneuvers, and you can't see them for the dust.

MRS. JANE WALKER

. . .

## **August Cover's Two Kids . . .**

San Bernardino, California

Dear Lucile:

Just had to write a word about that August cover—The Two Kids, brunet and blond, are absolutely "It." You certainly do know how to make fetching covers. And they don't belie the contents of the magazine, either.

EMMA J. C. DAVIS

## **Rockhound on a Coral Reef . . .**

U. S. Navy

Southwest Pacific Area

Dear Miss Harris:

For the past three years I have received *Desert Magazine* as a Christmas gift. Coming under the well known heading of "rockhound," as well as being a devoted lover of the desert, I certainly appreciate your efforts in publishing such a magazine.

It portrays the highlights of interest in the Western states for the unfortunate ones who are unable to enjoy our deserts otherwise. I have explored in the vicinities of many of the places your articles have mentioned. And as I peruse the illustrated mapped articles I can recall many pleasant trips and experiences I have had. Keep up the good work.

Like Randall Henderson, I too am in the jungles, in another corner of the world. But I ask you, how can one find materials like agate, petrified wood, etc., suitable for cutting and polishing, on a coral reef? It just isn't done. So after reading *Desert Magazine* I get very homesick. I am anxious again to take my prospector's pick and sack and go in search of those treasures which only the desert holds.

I am enclosing money order for the four *Desert Assortments* to go to my home address. I treasure them too highly to take chances on their being lost out here; therefore I deprive myself of reading them until I return, which I hope is soon.

CARL BANGLE, CM 2/c

. . .

## **Defines Sand for Quiz Editor . . .**

Santa Monica, California

Dear *Desert Magazine*:

I have subscribed to D.M. for over four years, reading it from cover to cover. I especially enjoy the friendly arguments on the letters page and make my request to sit in this time.

In True or False, June issue, you state White Sands national monument is composed of gypsum rather than sand.

Webster defines sand as small particles of stone, smaller than small pebbles and larger than dust. Winston defines sand as a mineral substance composed of small separate grains of rock.

The greater percent of sand is composed of quartz ( $\text{SiO}_2$ ). But sand also may be composed of gypsum ( $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ ) such as White Sands national monument, or of black sand known as magnetite ( $\text{FeO} \cdot \text{Fe}_2\text{O}_3$ ) which is often encountered in sluicing for gold, or the black sands beach of Hawaii which is composed of obsidian, not usually termed a mineral but rather as natural volcanic glass. I also have read of a beach along the coast of Washington which is composed almost completely of garnet and I have a bottle of ruby and sapphire sand in my collection.

E. F. MONTGOMERY

### **Praise to Yaquitepec Story . . .**

Fultonville, New York

Dear Miss Harris:

The D.M. came yesterday and though I was very busy I peeked through the pages. The picture of Yaquitepec certainly must be, as you said, "well done." I can see it in color in my mind's eye, with the help of Mr. Crocker's hints as to coloring. Then too I remember well the beauty of the western mountain country. The story as Marshal said, "gets under the skin." My heart aches for the family having to leave their little home. If I were foot-loose I'd go there and take up where they left off.

Personally I think they will have a hard time finding a place. Yaquitepec has spoiled them. Even in the pictures it is fascinating.

You say Mr. Crocker is very modest in considering his ability. I find most people who do worthwhile things let others toot the horn and unfurl the banners. They as a rule are too busy and sincere. Mr. Crocker not only paints well but writes well. When a man can by a few words paint the picture he did of lonely little Yaquitepec I'd say he was doubly gifted.

MRS. ANNA C. BOSTWICK

. . .

### **"Pilgrimage" Too Realistic . . .**

Salem, Oregon

Dear Sir:

"Pilgrimage to Yaquitepec" was fine. While reading it I thought I was on that mountain top looking over the desert. But on finishing the article I found I was only in my own living room! What a disappointment.

Since coming back to Salem after 32 years away, I am almost continuously homesick for the desert areas and the wonderful trips with the Sierra club.

When I get too homesick, I just read your Desert Magazine and it does lend a measure of peace and contentment.

ALMA A. CHESSMAN

. . .

### **Will Give D.M. to Service Boys . . .**

Pasadena, California

Editor, Desert Magazine:

Words are inadequate to express the pleasure my friends, my family and myself have had in reading your excellent magazine.

I have all the copies of 1940 to 1943 inclusive, and now would like to dispose of them in some way that would bring as much pleasure to someone else. Should you know of some camp of the armed forces situated somewhere on the desert, where you think the boys would enjoy them I would gladly mail them there.

MRS. ELLEN HAAS

*Dear Mrs. Haas: Any request from desert service camps will be forwarded to you.—L.H.*

### **Frenchman Knew the Answer . . .**

Arbuckle, California

Dear Mr. Henderson:

Was introduced to your magazine in January, at a time when some interest was needed badly. I started the year with a broken leg and various fractures. The five months in the hospital were shortened considerably while reading of the desert.

It brought back the memories of smoke trees, the dream-like beauty of the desert in spring, and the stern beauty of the desert in summer.

One of the great French writers had spent 30 years in the Sahara. He was being entertained by society in Paris. Although he was a kindly man he tired of these sheltered peoples' questions. When a woman, who had been prattling about the terrible desert, finally asked him point-blank what was in those great spaces to have kept him so long, he replied, "God, Madame!"

RALPH M. WILLIAMS

. . .

### **DM in Service Reading Room . . .**

San Francisco, California

Dear Friends:

I first became acquainted with Desert two years ago when my sister sent me a gift subscription, and it has been a source of joy to me ever since. I bring my copies down to our little book shop and leave them in the reading room. So many of our boys in uniform come in and read them and they enjoy every page.

VIRGINIA L. MEYER

. . .

### **More on Shrine Legend . . .**

Mesa Grande, California

Editor Desert Magazine:

In your June issue, Letters department, I was particularly interested in Mr. Julian D. Hayden's version of the four martyred children, sacrificed to stop a great flood.

I was among the Papagos in 1920 and first heard the story from the Santa Rosa government teacher, since confirmed by an old Santa Rosa Indian. As the burst of water subsided after the sacrifice it broke out in six or seven places a little below the shrine and large rocks were placed over these spots and can be seen there today.

I agree with Hayden's description. To my mind, a drought in that part of Arizona is not unusual as summer rains are spotted. It may not rain in Santa Rosa, yet 20 miles away there might be ample rainfall. With apologies to Mrs. Muench, I do not believe a drought among the Papagos would cause them to make such a heart-breaking sacrifice. But with a racial memory of a great flood, when nearly every living thing was drowned, that terrible calamity could only be averted by this precious sacrifice to an angry deity.

ED H. DAVIS

### **Black Butte "Disappears" Again . . .**

Winterhaven, California

Dear Editor:

The story "Black Butte Gold" in the August issue has aroused considerable comment among prospectors of the Chocolate mountains. While the youthful author's geography is off a little, it is nevertheless a good story. Many tales of black gold have come out of the Colorado desert, and the black butte travels along with all of them—sometimes one butte, sometimes two or three. So persistent is the association of the two, that somewhere in the region there must be a black butte with black gold on or near it.

While the subject is hot, may I contribute a little more mystery to the mysterious location of the Black Butte. In the fall of 1919 a prospector named Moore and myself were herding our fleet of pack burros across the mesa country north of the Cargo Muchacho mountains in southeastern Imperial county. The animals were picking their way through the heavy ironwood and palo verde timber which lined the many washes we were crossing at right angle. On each of the narrow mesas between these washes was an old wood road leading to the Tumco mines to the south.

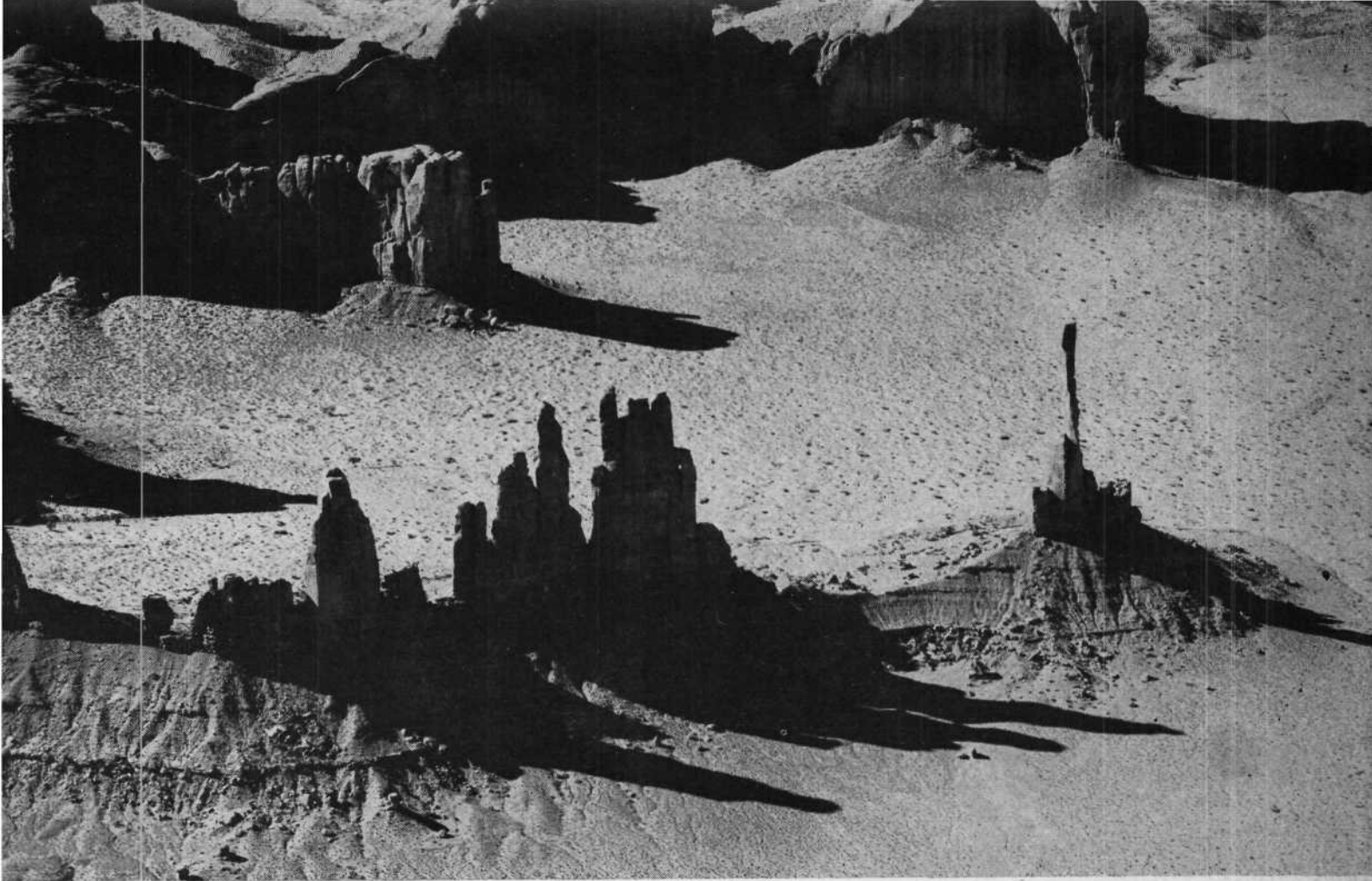
At noon we stopped at the base of a little black butte to boil coffee and rest the animals. After lunch we climbed to the top of the butte to "look-out" the best route to a certain tank near where Imperial Gables is now.

Being prospectors we instinctively examined the rock formation of the butte and noticed many seams of quartz running through the schist of which the butte was composed. Thinking the seams might be throwing gold we run a few samples taken around the base of the butte through our dry-washer and found a little gold in all of the samples. Not anything to become excited about but enough to warrant further investigation. That would have to await some future time however for we now were out of water and would have to push on to the tank still some miles distant.

With the passing years the probability that the little black butte was the makings of a gold mine became an obsession with me and I started out to give it a thorough investigation. But although I run out everyone of those old wood roads I could find no replica of the picture in my mind of the little black butte and the country surrounding it. Most likely when found it will prove to be just one more of those dreams we prospectors have—and which impel us eternally to search.

T. E. ROCHESTER





*It was through this sandy waste that Samuel Walcott and James McNally trailed upward from San Juan river to their deaths near El Capitan. View shows the Totem Pole, Monument Valley, Utah. Milton Snow photo.*

# Blood Revenge of the Navajo

In presenting this document, Richard Van Valkenburgh through *Desert Magazine* makes available to the public for the first time the authentic story of an episode which took place in the wild Monument Valley area many years ago. It is a story which has been told and retold and consequently become so warped that it is today almost a legend in the Navajo country of Arizona and Utah. The simple direct words of the young Navajo's testimony will bring readers closer to the psychology and common law practice of his tribe than any white man's words can approach.

From the Fort Defiance Archives and Containing  
the Statement of Hashkeneeni Begai  
Arranged by RICHARD VAN VALKENBURGH

**W**HEN Denis M. Rirodan, the Navajo agent at Fort Defiance, Arizona Territory, opened the dispatches brought him by the headman Herrero Segundo from Lieut. J. P. Krebs on the San Juan river he read, "Two prospectors, Walcott and McNally are said to have been killed by the Navajo near Navajo mountain . . ."

In the accompanying letter written by the trader Mitchell the information was given that late in March, 1884, Samuel Walcott of Baltimore, Maryland, and

James McNally of Illinois had outfitted at his post on the San Juan river for a prospecting trip. When last seen they were on the Indian trail that snaked its way upward through the shelved badlands between the gorge of the San Juan and the mist shrouded pinnacles of Monument Valley.

Rirodan immediately sent Navajo Pete into Monument Valley. After making a quiet investigation the scout returned to Fort Defiance with *Denetsosi*, Slim Navajo. The young Navajo's rambling confes-

sion not only involved himself but also Hashkeneeni Begai, the son of Chief Hashkeneeni. It verified Rirodan's growing fear—Walcott and McNally were dead!

A few days later Hashkeneeni and a large band of warriors rode into Fort Defiance. With him was his son Hashkeneeni Begai. Before Acting Agent S. F. Marshall and the tribal head chief, Henry Chee Dodge, the young Navajo made the following statement:

• • •

STATEMENT OF OSH-KA-NI-BEGAY, RELATIVE TO THE KILLING OF TWO AMERICANS, BY HIMSELF AND OTHERS NEAR NAVAJO MOUNTAIN ON ABOUT THE 31ST DAY OF MARCH, 1884.

"VIZ"

"One night I was sick and my friends were singing over me all night to make me well. In the morning I was better and started on horseback with my wife to go to her camp which was some distance away.

"As we rode along we came to the top



*Wild and desolate was the setting for the death of the "old man walking and the young man riding." Milton Snow photo.*

of a little hill (Chaistla butte). My wife pointed off to something which she said was moving. I looked—but could see nothing. I was sleepy. I rubbed my eyes and looked again. I saw two Americans on the trail.

"Just then a boy—a son of Belen la ki (*Bili lakaih*, His White Horse) came up, and we all rode to where the Americans were. One was an old man walking (Samuel Walcott) leading some horses. The other, a young man (James McNally) was riding along.

"They spoke to us and gave us all some tobacco. My wife had some mutton tied to her saddle. The old American made signs that he would like to buy some of it. My wife told him that her sheep-herd was near the trail and when we got to them we would sell them a whole sheep.

"After then the boy left.

"We rode along and when we came to the sheep the American did not say any-

thing about buying one of them. I then asked the American did he want a sheep—but he did not answer. Then my wife and myself left the Americans and went to my wife's camp.

"When I got to the hogan I stayed around all afternoon and when it got dark I told my wife I was sleepy and asked her to pull off my moccasins. I lay down and slept all night. About daylight I awoke and got to thinking that my mother had said that she wanted to move away to another place and that she needed some horses to help her move the things.

"So I got up and went out and brought in two horses. As I was coming back to camp with them I saw Ten-nai-tsosi (*Dene-tsosi*) and a boy dressing a sheep. I asked them what they were killing a sheep so early in the morning for. They said they were killing it for two Americans whose camp was only a little way off.

"I asked particular where it was. Then

I went to my camp and saddled my horse and went with the extra horse to the camp of the Americans. When I got there one of them had got up and was making a fire. I sat on my horse for awhile and then got off and went and stood around the fire warming my hands as it was very cold.

"The old American got out the cooking utensils and made coffee. While he was cooking Ten-nai-tsosi and the boy came up with the mutton and some corn which they threw on a brush. Then all three of us Navajo sat around the fire.

"About the time coffee was ready the young man got up and the two Americans sat down to eat their breakfast. After eating they threw out the coffee, gave the dog they had with them some bread and things that was left.

"Then the young man went to the saddle and got a rope and started right off in the direction of where the horses were. He went a little way and I told Ten-nai-tsosi, 'Tell the young American where the horses are.'

"But Ten-nai-tsosi said, 'No.'

"Then I said again, 'Tell him where his horses are.'

"But he said, 'No' again.

"Then the old man got out some field glasses and looked all round to see if he could see their horses as there were a good many horses around. He called me and fixed the glasses and told me to look through. I did and could see a long way around. I said they were a wonderful thing—all the horses are close around.'

"Then Ten-nai-tsosi wanted to look through, but the American refused and put them back in his pocket. Then he took out his pipe and tobacco and filled his pipe and gave all three of us a little tobacco.

"About that time the boy went to

*Across this barren valley of the Laguna wounded James McNally fled t*





where a Winchester rifle was lying on the ground and commenced to unstrap the scabbard. The American said to the boy, 'Go away!' and the boy went away. Then the American pulled out his field glasses again and looked around and put it back in his pocket.

"The boy went back to the gun again and unbuckled the scabbard. The American saw him and swore at him and got very mad and went over to where the gun was. An axe was lying near the gun. He picked up the axe and ran after the boy and tried to hit him with it.

"But he ran and got away from him. Then he turned around and ran at Ten-nai-tsosi who was sitting near the fire and swung the axe with full force to hit Ten-nai-tsosi. I ran up and caught ahold of the axe handle on his shoulders.

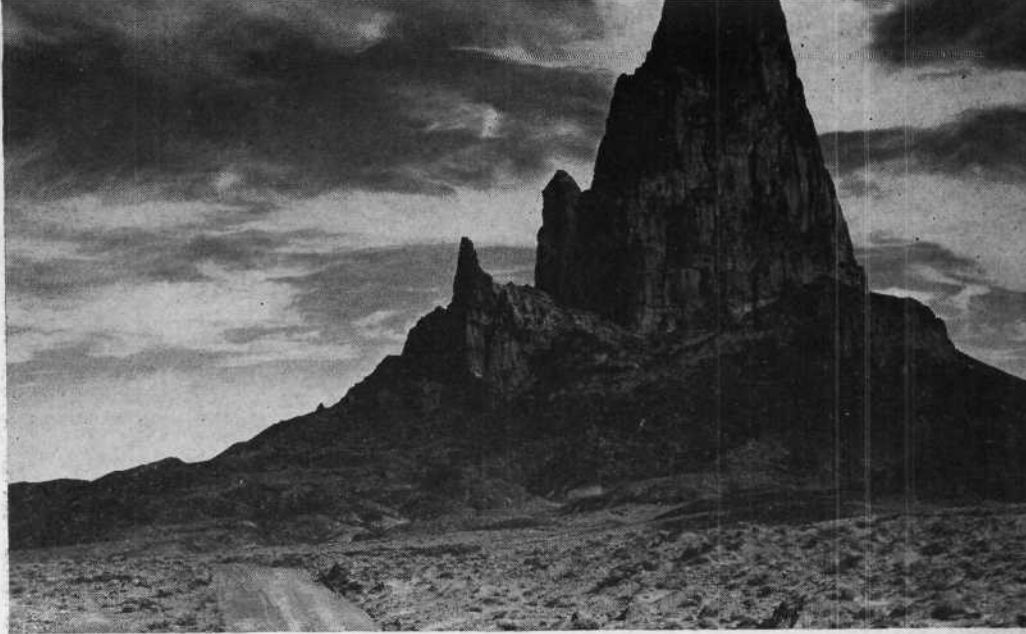
"The American went to pull his pistol and I got the axe away from him and hit him on the back of his head—not very hard, but knocked him down. When the American fell I was very much frightened and threw the axe away. Ten-nai-tsosi went over to the American and searched him.

"He took the pistol off the American had on and went over and picked up the Winchester rifle—about then the boy found a little pistol which he gave to Ten-nai-tsosi. I told Ten-nai-tsosi to give me the big pistol and he handed it to me.

"About then the American started to come to. Ten-nai-tsosi took up the axe and hit him three or four times on each side of the head near the ears and this killed him right away.

"Just then an old Navajo called Tug-iyetty (*Dagaa yazzie*, Small Mustache) came up and said, 'My boys, what have you been doing here?'

"Ten-nai-tsosi said, 'My brother, I



*It was under the long shadows of El Capitan that Hashkeneeni Begai and his Navajo attacked Walcott and McNally in the spring of 1884. Snow photo.*

would be dead now if it was not for this man,' and pointed at me, 'he save my life. The American was just about to hit me with the axe when he stopped it.'

"At this moment the young American came into sight. Tug-iyetty said, 'What will we do with that other American?'

"Ten-nai-tsosi said, 'I don't know just what to say.'

"Tug-iyetty answered, 'We had better kill him right away.'

"Then Ten-nai-tsosi went to a saddle and took a bundle and put it on my extra horse and took the Winchester rifle and got on the horse. I took a pistol and got on my horse. We rode toward the American.

"Ten-nai-tsosi was riding in a full run. When we got near him Ten-nai-tsosi pulled down his gun and snapped it at him three times—but it did not go off. The American noticed this and pulled his

pistol, but there was no shooting done by any of us.

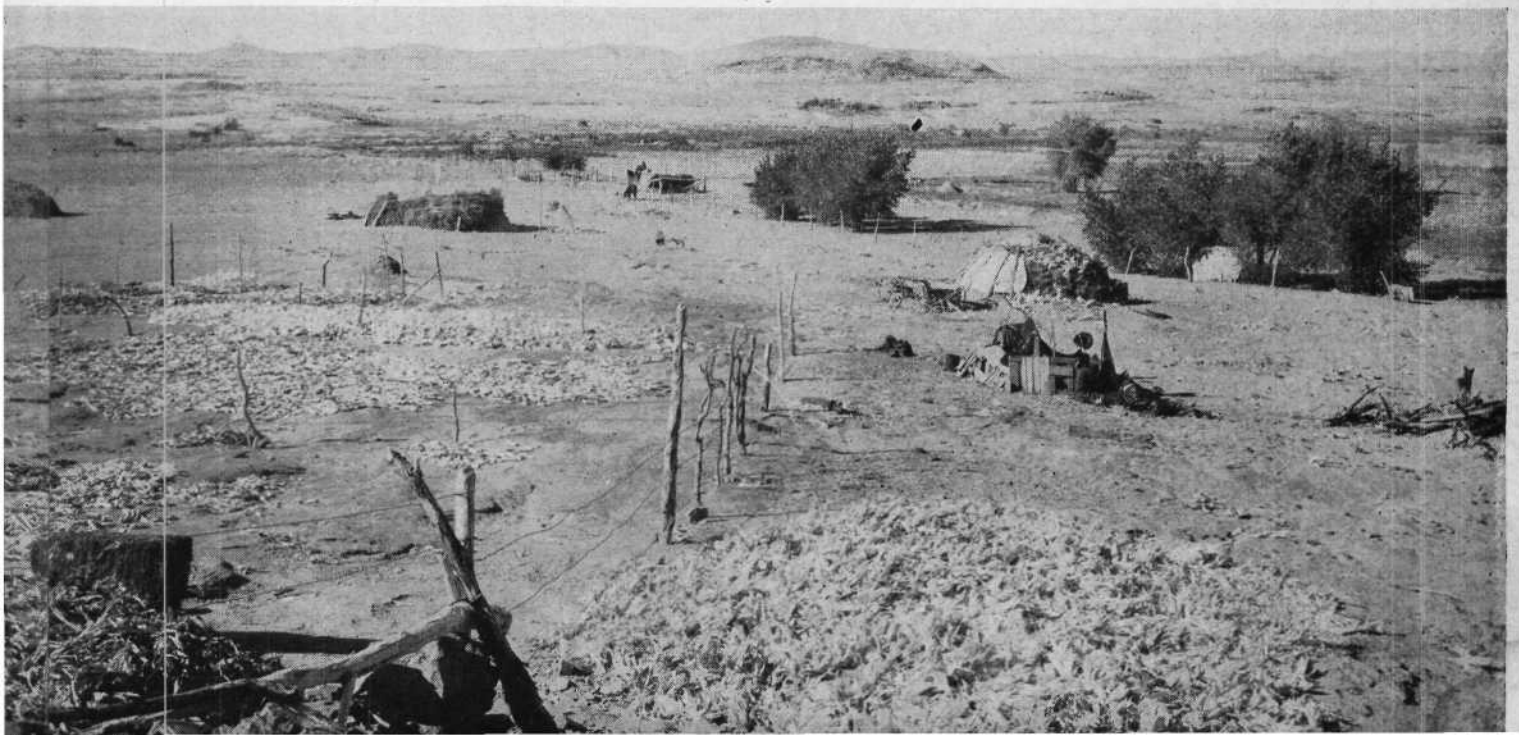
"Then Ten-nai-tsosi run back and I followed him. After going a little way we stopped and Ten-nai-tsosi begged me, saying, 'Dear Brother—and other names—Don't give me away—don't tell that I killed the old American as he was not bad hurt when I took the axe and killed him.'

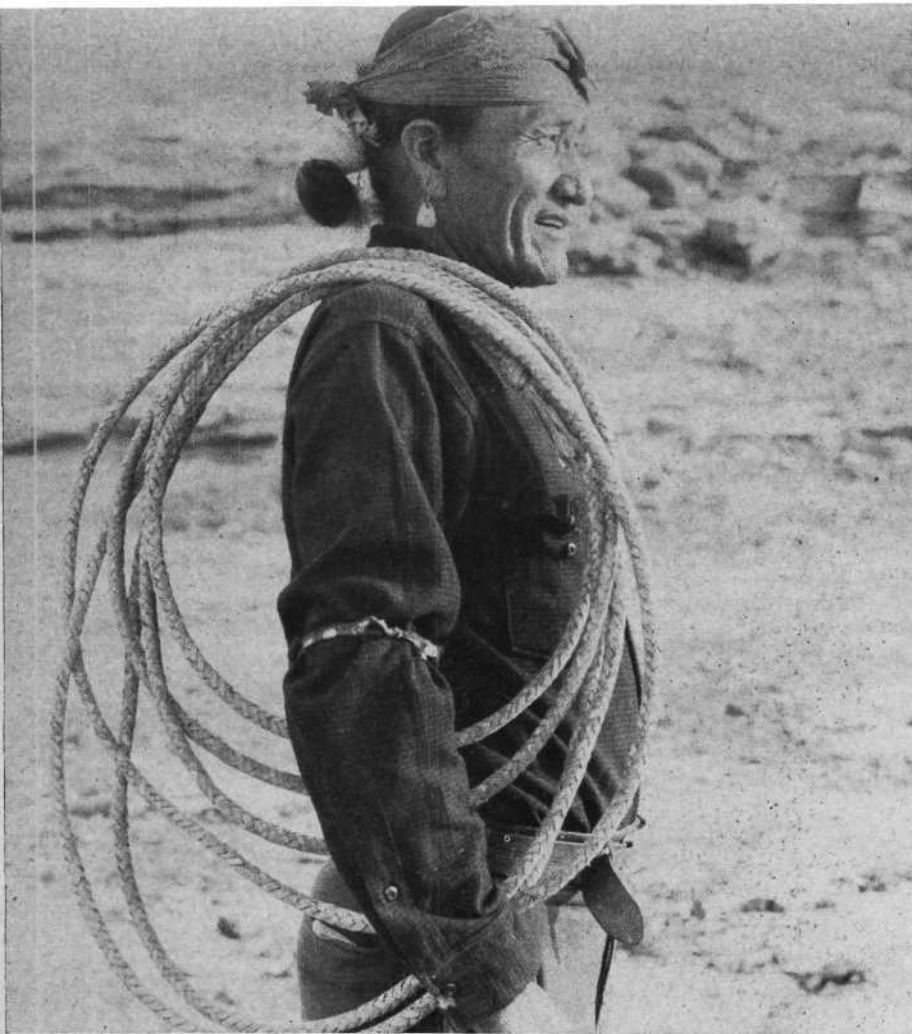
"Then we went back to where Tug-iyetty and Beleen-la-ki (*Bili lakaih*, White Horse) who had just come, and the boy were standing. Beleen-la-ki said, 'I think you had better put a rag on a stick and go to the American and show him that we mean peace and point out to him which way he had better go from here.'

"Tug-iyetty said, 'No! We had better kill him. He may do some damage to some Navajo as he goes back.'

"We sat there for a while and saw three Navajo coming toward us on horse-

*f Hashkeneeni. Several Navajo hogans are visible. Photo by Milton Snow.*





With firm faces hard as the wind shaped rocks, the Navajo of Monument Valley still are a hardy and fiercely proud people. Hastin Lapaii, the Grey man, who guides the Navajo of the southern sector of the Great Valley in the Rocks. Indian Field Service photo.

Facsimile reproduction of part of young Hashkeneeni's statement given May 7, 1884, before the authorities at Fort Defiance, Arizona.

ally wounded the day before. This is  
it is the true statement  
Marshall. } Ooh. Ka. ni. ne. to. gay <sup>this</sup> ~~man~~  
I Belen. la. Ki. Nam. nothing more  
this affair than that part which tells about my  
going to save a play of ten. & the shooting up  
the train there where we killed. & Tug-i-yezzy  
wounded and went to the man  
Marshall. } Belen. la. Ki. <sup>this</sup> ~~man~~  
I Ooh. Ka. ni. ne. have heard  
your young statement read, it is true and  
as relates to all that transpired from  
time I joined the Navajos that night  
to 'Hagan' that when Tug-i-yezzy lay  
wounded, up to the train the young American  
was killed  
Marshall. } Ooh. Ka. ni. ne. <sup>this</sup> ~~man~~

back. The boy went to them and told them to come up where we were. They came. Tug-i-yezzy said to them, 'We have killed one man.'

"Tug-i-yezzy begged all these young fellows to kill the American and swore at them because they were so slow about it. Then he finally said, 'Give me your best horse and let me go after the American. I used to be a great one to fight the enemy.'

"Then we all started toward the American from different directions. Tug-i-yezzy got near the American from behind some brush. The American saw him and shot at him four times. Then Ten-nai-tsosi commenced to fire at the American and shot several shots with the rifle and pistol. I shot several times with the gun and pistol as we changed about. We killed all three of his horses.

"Tug-i-yezzy got up nearer to the American from behind some brush. As he raised his head the American shot him. Tug-i-yezzy laid there for a little while—then got up and ran little way and fell down. Then he got up and passed out of sight over the hill.

"We then all left and went to where Tug-i-yezzy was lying. I got there and found that the ball had gone in near the eye and came out near his ear. He said, 'Where is the American?'

"I answered, 'He is back there lying between his horses.'

"Then Tug-i-yezzy said, 'I think I am wounded very bad, I wish all you boys would try to kill this American. I think I will die.'

"Then I went over to my father's camp and told him all about it. My father Osh-ka-ni-ne (Hashkeneeni, Putting - Out - War), myself and another man started back to where Tug-i-yezzy was lying wounded. We reached there after dark.

"They told us that the American had gone, but did not know which way he went. We sat a long time and six of us started to look for the American's trail. We lit matches and saw the tracks going on the trail. Then we went along. Ten-nai-tsosi and I were behind and he begged me again, 'Don't give me away.'

"Going on a short distance we again lit matches and again saw the tracks. Three of the party went back, by myself, my father, and another man followed the trail of the American.

"We came to a Navajo camp where we found them all asleep. We woke them and told them all about it. We stayed there all night and in the morning three Navajo went for their horses and went along with us to trail the American.

"As we tracked him he turned off toward the top of the mountain (Black mountain). Then we separated. The other party soon found the American's horse. Then they followed his foot tracks. And



before long they found him. I was a little way off and heard the shooting.

"I went towards the noise, and from the top of a bluff (near the Fingers above Chilchinbito Trading Post, Arizona) and saw the American and there we killed him. We all went to where he was lying and one of the Navajo took the pistol scabbard off him. I looked and saw that his clothes were very bloody, and which was dry, which makes me think he was wounded the day before. This is all, and it is the true statement."

OSH-KA-NI-BE-GAY  
X (His Mark)

WITNESS:

S. E. MARSHALL

"I, Beleen-la-ki, know nothing more about this affair than that part which tells about proposing to raise a flag of truce, and the shooting up to the time the three horses were killed, and Tug-i-yezzy was wounded and went to the rear."

BELEEN-LA-KI  
X (His Mark)

WITNESS:

S. E. MARSHALL

"I, Osh-ka-ni-ne have heard the foregoing statement read, it is true and correct as relates to all that transpired from the time I joined the Navajo that night at the 'hogan' (hut) where Tug-i-yezzy lay wounded, up to the time when the young American was killed.

OSH-KA-NI-NE  
X (His Mark)

WITNESS:

S. E. MARSHALL

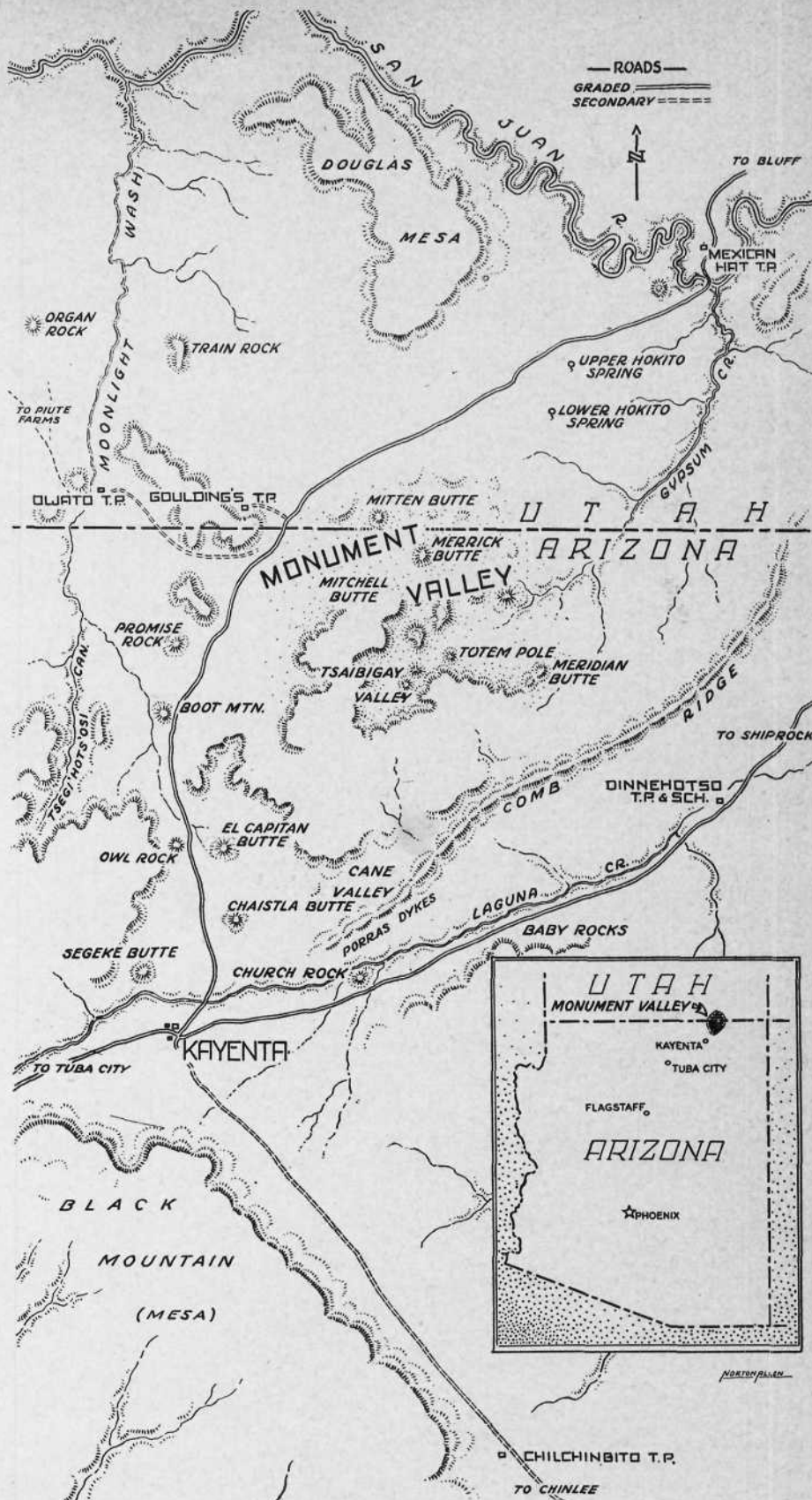
SIGNED IN THE PRESENCE OF,  
AND INTERPRETED BY:  
HENRY DODGE  
Interpreter

NAVAJO AGENCY  
May 7th, 1884.

Some months later Navajo Pete guided Chee Dodge and Lieut. George Alley from Fort Wingate to the shallow grave of Samuel Walcott scooped out in the blood-stained sand near lonely Chaistla butte. Nearby lay the remains of the old prospector's faithful dog. The remains of James McNally never were found and still lie somewhere up in the Black mountain rim near the Fingers above Chilchinbito, Arizona.

Of the eight Navajo involved in the Melee of the Monuments only Chief Hashkeneeni was punished. After being held by the military at Fort Wingate, New Mexico, for some time, he served a short sentence at St. Johns, Arizona.

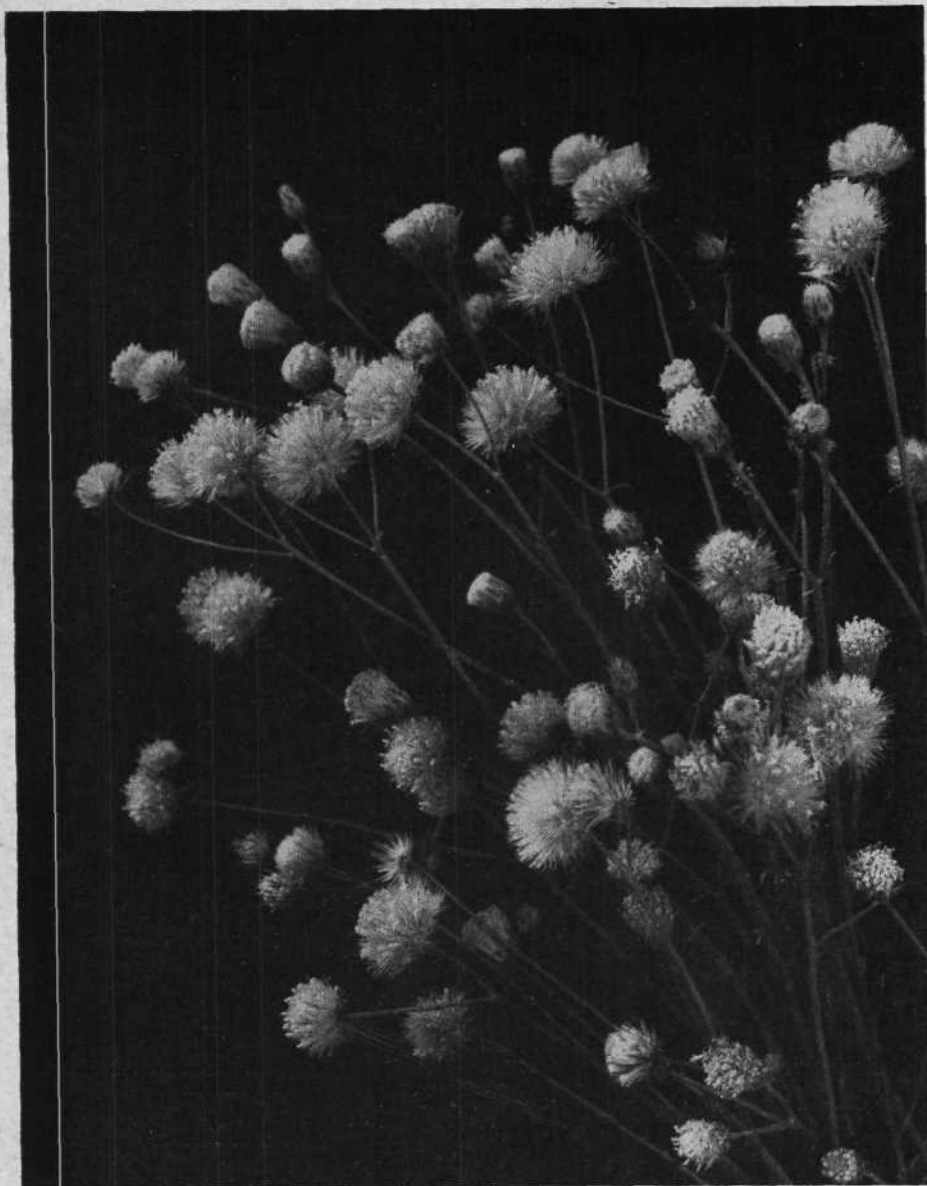
In the stern eyes of white man's law Hashkeneeni Begai was definitely an accessory to the killing of Walcott and McNally. But in the common law and custom of his people, he was justified in the protection of a fellow tribesmen in inflicting blood revenge on those who wounded a kinsman.



ing blood revenge on those who wounded a kinsman.

Chief Hashkeneeni's turbulent spirit long since has passed into the *Dine* "Land of the Dead" as have the souls of six other Navajo involved in the affair. In 1937 while wandering through the great canyon country west of Oljato, I came to

a Navajo camp nestling in the rinconada of Nakaih canyon. A venerable old Navajo welcomed me and offered me the finest of Navajo hospitality for the night. Later, when I asked the trader at Oljato of him, he answered, "That's old Hashkeneeni Begai—one of the best Navajo in the country!"



When desert rains fall, Sweetbush bursts into a mass of yellow fragrance from a tangle of rush-like branchlets. Photo by the author.

## Favorite of the Chuckawalla

By MARY BEAL

ONE of the common, but often unidentified, shrubby plants of the Colorado desert is Sweetbush, or Chuckawalla's Delight. During most of the year it remains inconspicuous, blending into the monotony of vegetative background. But let a rain fall along sandy gravelly slopes and draws, and whatever the season, a few scattered leaves will appear and in no time this complicated tangle of tiny rush-like branchlets suddenly bursts into a mass of yellow fragrance. It is then that both the bees and chucka-

walla lizards are attracted to its strongly scented blossoms.

Botanists call Sweetbush *Bebbia juncea* var. *aspera*. And as usual they have good reason for doing so. Its specific names of *juncea* and *aspera* refer to the two most conspicuous characteristics, that of having slender *rush-like* branches which are *rough*.

The genus was named by Professor Edward L. Greene in honor of Michael Shuck Bebb (1833-1895), considered America's greatest specialist on the willow

family. He once lived in San Bernardino. His contribution to botany is thus commemorated by the association of his name with one of the desert's most charming little shrubs.

Sweetbush is nearly leafless, one to four feet high, as broad or often much broader than its height. The flowers reveal its membership in the sunflower family—they occur in heads which are small but brightly colored and so numerous as to almost conceal the stems, enveloping the bush with a mantle of yellow gold.

Bebbia's herbage is roughened by minute stiff white hairs, upturned from pustulate bases, the pustules remaining when the hairs fall away in age. Leafage is scanty, the few linear leaves very remote, growing opposite below and alternate above,  $\frac{1}{2}$  to 2 inches long, often with 1 or 2 pairs of short but prominent teeth at the middle. Flowers are rayless, the heads less than half an inch long, with yellow tubular corollas. The pappus is early noticeable, soon spreading out its 15 to 20 plumose bristles into a ball of fluff, speckled with the bright corollas which are little if any longer than the pappus. The achenes are somewhat flattened, linear or top-shaped, and densely hairy with long appressed hairs.

Sweetbush occurs in both the California deserts, but is less common on the Mojave. It reaches perfection along the draws and slopes of the low ranges near the mouth of the Colorado river—and it is there that Sweetbush and Incense bush are almost the only shrubs to relieve the volcanic barrenness. It reaches into Orange county on the west, Inyo county on the northeast, Lower California on the south.

In Arizona this same variety, *aspera*, is also the most common, and is found up to 4,000 feet in the Grand Canyon region, and in Mohave county to Pima and Yuma counties.

Although its usual flowering season is April to July, there are places, especially in Arizona, where it may be found blooming nearly any time of the year, due to its quick response to refreshing rains, whatever the season.

• • •

### THE CACTUS CLAN

Cacti are found from the tip of Argentina to Canada and in every state except Maine, New Hampshire and Vermont. *Opuntia polyacantha* is the farthest-north species—it reaches the Peace river in western Canada, where it is found on sandy southern slopes.





A few years ago Charles Kelly and Frank Beckwith encountered an old grey man plodding along the trail near Poison Springs wash, in Utah. His odd appearance and his refusal to accept a ride aroused their curiosity. Since then, Kelly has uncovered information linking him with a lost mine tale originating in New Mexico and going back as far as the early Spanish days of exploration. The fantastic part the little old man played in searching for the Lost Josephine is but one facet to the 150-year old treasure hunt—and is another reminder that truth is stranger than fiction.

# Lost Josephine Gold Mine

By CHARLES KELLY  
Drawing by John Hansen

ON A hot day in early September several years ago, Frank Beckwith and I were returning from an expedition to Poison Spring wash in Wayne county, Utah, where we had gone in search of ancient Indian petroglyphs. Rounding a sharp bend we saw a man coming down the road toward us. Reasoning that anyone on foot in such a desert must be in distress I slowed down to offer him a lift or at least a drink of water. To our surprise the man passed without slackening his pace or turning his head. His eyes seemed to be fixed on the distant Henry mountains and he appeared to be unaware of our presence. He was a small man, about

75 years old, with stooped shoulders and grey beard. Over his shoulder was slung a lightly filled gunny sack and in one hand he carried a coffee pot half full of water.

"Guess he doesn't need any help," I said to Frank, stepping on the gas; "but I can't understand why an old man would be trying to cross this desert on foot. I wonder if he knows there's no water for the next 30 miles."

"Too bad he's not going our way," Frank replied. "I'll bet the old codger could tell a mighty interesting story."

We drove on down the crooked dusty road, but we couldn't get the old man out

of our minds. Who was he and where could he be going? Why was he afoot and alone? What was the story behind his strange quest?

Little by little, in the intervening years, I found some of the answers to those questions and the story proves once again that truth is stranger than fiction.

The legend of the Lost Josephine mine seems to have originated in New Mexico and is probably over 150 years old. Location of the legendary mine usually is thought to be in the La Plata mountains of Colorado or the La Sals of southeastern Utah. Early settlers of Wayne county, Utah, however, believe the Lost Josephine

was in the Henry mountains on the west bank of the Colorado river.

According to their version, a group of Spaniards from Santa Fe came to the Henrys on a prospecting expedition shortly after Father Escalante's original entry into Utah in 1776, following the latter's trail and crossing the Colorado at Crossing of the Fathers, 40 miles above Lee's Ferry. Turning north they passed over Fifty Mile mountain to the Henrys, where they began searching for gold. In one of the five peaks, it is said, they found a rich deposit which they mined and smelted.

When ready to return home a dispute arose as to division of the gold. To prevent quarreling it was all melted together

and cast into an image of the Christ child. With this "Golden Jesus" they began the return journey. On Fifty Mile mountain, the legend says, they were attacked by Indians. While some of the men fought the hostiles, others escaped with the golden image and buried it in a cave. The survivors finally reached Santa Fe, but because of their fear of Indians, never returned for the gold. They did, however, make maps of the locality, at least one of which is said to be still in existence. The mine is thought to have been discovered and operated sometime between 1776 and 1800. So much for the legend.

About the year 1900, according to scattered bits of information I have been able

to piece together, a man by the name of Al Hainey was prospecting in New Mexico. In his travels he ran across Frank Olgean, a descendant of one of those early Spaniards who had discovered the Josephine mine. He had a map, handed down in his family, showing its location. After hearing Olgean's story and studying the map, Hainey believed he could relocate the mine.

The two men started out together, following trails indicated on the map which eventually led them, not to the La Platas or the La Sals, but to the Henrys. After crossing the Colorado at Escalante's old ford they turned north to Fifty Mile mountain, following a dim trail marked by small stone monuments. On the flat summit of the mountain, near a trail marker, they found a flat rock on which had been inscribed a large arrow. Following the direction of the arrow they discovered a hidden cave, on the back wall of which was a lengthy inscription in Spanish, giving further directions for reaching the mine. One of the landmarks indicated in the inscription was a series of three large round concretions, split open like halved apples. By sighting through the splits, approximate location of the mine could be seen.

Following directions on their map and aided by the inscription in the cave, Hainey and Olgean at last found the spot where the old mine was supposed to be, a small bench on the side of one of the smaller peaks of the Henrys, near a hidden spring. A heap of rocks appeared to be the ruins of a crude smelter. Digging nearby they turned up quantities of ashes, charcoal and slag. Rotten stumps of juniper trees indicated where wood had been cut to make charcoal.

Encouraged by these discoveries, the two men began searching for the vein from which the gold had been taken. They combed the mountainside day after day, until their supplies were exhausted, but failed to find any trace of ore.

Still hopeful, the men decided to go to Hanksville, 50 miles north, for more supplies. On the way Hainey discovered numerous caves and cliff dwellings containing beautiful Indian pottery. Knowing there was a market for such stuff he gathered all he could pack, shipping it from Hanksville to collectors in the East. This financed further search and furnished a logical excuse for his being in the mountains without revealing his real motive.

Frank Olgean finally tired of the fruitless search and got a job herding sheep. Hainey remained two or three years before finally giving up. When he left the Henrys all he had to show for his efforts were some fine pieces of pottery and a collection of rock specimens. The mountains are composed principally of trachyte, which contains no mineral, and the only other

## Desert Philosopher . . .

SOLILOQUIES OF A PROSPECTOR

Drawing by Frank Adams

Text by Dick Adams



"THIS RUIN STANDS AS A MONUMENT WHERE ENTOMBED GHOSTS OF AGES LIE — OF HARDY MEN WHO LOVED TO LIVE — AND LOVING LIFE, REFUSED TO DIE"



variety of rock in the vicinity of the old smelter was an outcrop of phonolite.

Thirty years later Al Hainey was living in a city on the Pacific coast. Bad luck and the depression had stripped him of everything and in order to exist he sold newspapers on the street. All he had to show for a lifetime of prospecting was a box of rock specimens of no value to anyone but himself.

If only he could find the Lost Josephine mine, Hainey thought as he peddled his papers, he would be rich. He was satisfied he had followed the old map correctly and found the remains of an old smelter, but there was no rock in the vicinity except a mountain of trachyte and that isolated outcrop of phonolite. Could it be possible that in this case ordinarily barren phonolite carried values in gold?

He went back to his old box of samples, dug out the dark grey bits of rock and examined them once more under a glass. Not a particle of mineral was visible. As a last resort he decided to take them to an assayer for analysis, something he previously had not thought worth while.

At the end of a week he went back to get his report, expecting to be told the rock was worthless. But the assayer seemed unexpectedly agitated as he handed Hainey a sheet of paper. The assay showed an estimated value of \$50,000 a ton for the sample he had brought in! He scarcely could believe his eyes. If the report was correct he had, after all, discovered the Lost Josephine mine!

There was, of course, only one thing to do—return immediately and file a claim. He was sure he could find the place easily, even though he had not been in the Henrys for 30 years. His sole assets amounted to three or four dollars, but that was unimportant. He soon would be rich.

So Al Hainey set out for Utah, thumbing rides when he could, walking when he must. He reached Richfield, on the nearest main highway, and turned eastward toward the Henrys. A rancher gave him a lift to Torrey, 60 miles, but beyond that point there was little travel. The mountains were nearly 100 miles farther, but in the clear desert air he could see their snow covered tips and his mind burned with but one thought—to reach them as quickly as possible. At Bishop Pectol's store he bought a small square of bacon and a package of oatmeal. In a rubbish pile he found a battered frying pan, a lidless coffee pot and a torn gunny sack. He threw the bacon, oatmeal and frying pan in the sack, filled his coffee pot with water, and without waiting for a passing truck, started walking.

It was Al Hainey whom Frank Beckwith and I passed on the desert more than half way to the Henrys.

At Hanksville, I learned later, Hainey stayed over night with Charley Gibbons,

whom he had known 30 years before. He told Gibbons of his discovery but refused the loan of a horse and would not allow the storekeeper to accompany him, although he now was faced with the most difficult part of his journey. The surrounding desert is dangerous even for a man on horseback unless he is thoroughly familiar with its few waterholes. To traverse it on foot is almost suicide. But Hainey believed he could find his way, even after so long an absence. Besides, he didn't propose to share his find.

Two days later Hainey dragged himself into a sheep camp, half dead from fatigue and thirst. The herder, Harry Ogden, fed him and gave him a bed, as he carried no bedding of his own. He told Harry what he was hunting for and asked about waterholes. The country didn't seem quite the same as he remembered it.

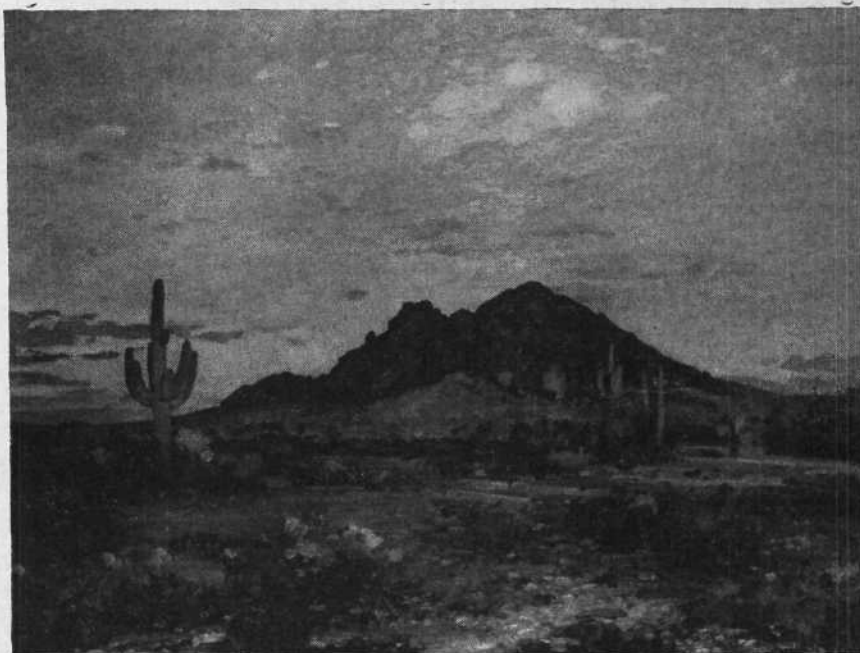
"Wait here a few days and get rested up," Ogden told Hainey. "I've got to go to town for supplies. I'll be back in two days, then we'll take horses and hunt for the mine. You couldn't possibly make it afoot."

The old man promised to wait while Ogden went to Hanksville. But he was certain he had a million dollars in his grasp and didn't intend to divide it with anyone. He had waited a lifetime for this. The Henry mountains loomed above him.

It was necessary only to find the place where he had picked up his samples and he had a photograph of that in the back of his head. With the information obtained from Ogden he was sure he could find water. So, when the herder was out of sight, he shouldered his gunny sack, filled his coffee pot with water, and set out alone and afoot.

When Ogden returned, Hainey was gone. No one has seen him from that day to this. When he failed to return, searching parties went out, but they found no trace of the old man. Even yet, as sheepherders and cowmen pass back and forth they look for Hainey's bones, but it is a big country where a body might lie for 50 years without being discovered.

Since his disappearance many men have searched for the Lost Josephine mine. One spent two years in the mountains. He found the three "split apples," nearest known landmark, but did not succeed in locating the mine. Harry Ogden says he found the cave on Fifty Mile mountain containing the old inscription, but couldn't read Spanish and had neither pencil nor paper to make a copy. He intends to go back there. He is certain that the ancient inscription, scratched on smooth rock with the point of a knife, is the key to the incredibly rich Lost Josephine mine.



#### "SUNLIGHT ON THE MOUNTAIN" . . .

Desert artist Lon Megargee's color lithograph of Camelback Mountain in natural red-gold and smoky azure of Arizona. Each 16x12 print signed by the artist and printed on white mat suitable for framing. A colorful bit of the Southwest for your living room. \$3.00 postpaid.

Also available a limited number of Megargee's black-and-white lithographs and block prints of "Conservation," "So What," "Wild Horses," "Mule Colt," "Burros," "Shepherd," "Hopi," "Siesta." \$5.00 each.

California buyers add 2½% tax.

Send orders to . . . DESERT CRAFTS SHOP, El Centro, California

# Mines and Mining . .

## Pasadena, California . . .

Tuition-free evening course on methods of developing mines and prospects, ore extraction, milling processes, strategic minerals, mining law, financing, etc., will be given as part of California Institute of Technology's war training program, beginning September 8. Professor Ian Campbell of geology department, course supervisor, stated the course is designed to provide trained men and women for mining enterprises. Classes will be instructed by G. A. Schroter, former chief metal, mineral and chemical section, western division, WPB.

## Las Vegas, Nevada . . .

Congressional appropriation of \$40,000 has been made to drill and explore coal deposits near Coaldale in Esmeralda county. There are large deposits of coal in that section but since only shallow developments have been made, the best grade lying at depth, never has been mined. This area has been recommended to DuPonts should they decide to establish western plants.

## Wells, Nevada . . .

E. A. Aker, controller, announced that zinc property near Black Mountain will be extensively developed. Assays taken from prospect show zinc content to be as high as 35 percent in some places.

## Flagstaff, Arizona . . .

In reply to congratulatory telegram from General Dwight Eisenhower in North Africa for their work in mining vanadium, 60 Navajo Indians wrote him that they were glad "that our vanadium is strong and stout . . . and we are going to work harder than ever . . ." Each Indian signed the note with his thumb print. Natives, all of Monument Valley, formerly used vanadium as medicine, but now are mining it for use in hardening steel.

## Socorro, New Mexico . . .

Dr. T. P. Thayer, associate geologist of U. S. geological survey has established headquarters at New Mexico school of mines from which he will seek high quality radio-grade quartz crystals in that area. Water-white, yellow and light smoky quartz crystals are urgently needed to provide fighting and bombing planes with two-way radio communications with ground units. Dr. Thayer is equipped to test minerals for quality either in laboratory or field. Persons knowing of or owning clear quartz crystals are asked to communicate at once with Dr. Thayer in New Mexico.

## Winnemucca, Nevada . . .

Ceiling prices for fluor spar of practically all grades have lifted approximately \$5.00 a ton by OPA. New price is designed to boost production and compensate producers for wage increases which were given to keep miners from moving to higher paying jobs in war plants. It is estimated that over 310,000 tons of fluor spar will be consumed this year in the manufacture of steel and aluminum.

## Denver, Colorado . . .

Arrangements to transfer 4,500 soldiers to work in metal mines have been completed by war manpower commission officials. Thirty-five mines in nine western states have been certified by war board to receive soldier-workers, and hiring will begin immediately.

## Winnemucca, Nevada . . .

John M. Heizer and Charles Segerstrom are shipping one carload of iron ore per day from Lovelock mines to ballast fabricators near San Francisco bay, they recently announced. Property has approximately 300,000 tons of ore running 69 percent iron.

## Independence, California . . .

Rich scheelite deposits operated by U. S. Vanadium corporation make Inyo county the "country's hot spot for tungsten" according to Mel Wharton in Explosives Engineers Journal. Refinement of process combined with huge deposits of mineral make operations the world's largest, although ore is low grade. In addition to tungsten, molybdenum, copper, silver and some gold are recovered from ore on this property.

## Las Vegas, Nevada . . .

Inaugurating what is believed will be new era in history of manganese, largest ore mill in the state went into operation last month. Plant, according to Walter B. Hester, superintendent, will determine whether medium grade manganese can be produced successfully in this country. Representing an investment of about \$8,000,000, Manganese Ore company mill is designed to handle 1,100 tons of ore per day in a unique process which it is hoped will eliminate necessity of importing manganese from Russia and Africa. A modern village with 62 houses, three dormitories, cafeteria, general store, and post office has been erected to meet needs of workers.

## Winnemucca, Nevada . . .

Tungsten ore from Riley mine, 40 miles northeast of here, is now supplying Metals Reserve stockpile on Pinson ranch. Three pits, believed to be one of the largest tungsten deposits here, were opened February. About 4,000 tons of ore are now in pits and hauling has been started.

## San Francisco, California . . .

California Journal of Mines and Geology, for July and October, 1942, just released by state department of natural resources, includes economic mineral map of California No. 4, on tungsten. Most of the journal is devoted to a tabulation of tungsten deposits to accompany the pocket map. The listing includes name of 275 properties, name of owner, location, production class, type of deposit and source of information. Copies may be obtained from Walter W. Bradley, state mineralogist, division of mines, Ferry building, San Francisco. Price \$1.20 plus sales tax.

## TRUE OR FALSE ANSWERS

Quiz on page 14.

- 1—False. Father Kino was a Jesuit, first European to make the perilous trip over Camino del Diablo, in 1701.
- 2—True. More usual length is 18 inches.
- 3—False. Located in Virgin canyon.
- 4—True. On Anaho island, Pyramid lake, is the West's largest pelican rookery.
- 5—True. When cut cabochon.
- 6—False. It lies west of the sink.
- 7—False. Lies on both sides of Utah-Arizona line and is reached by roads of both states.
- 8—False. Kearny commanded Army of the West, and was followed by Mormon Battalion under Lt. Col. Philip St. George Cooke.
- 9—True.
- 10—False. Twain worked on a newspaper in Virginia City.
- 11—True.
- 12—True. One place fossil corals are found is Mitchell's Caverns in the Providence mountains, Mojave desert.
- 13—False. Amboy crater has been extinct since the white man came to the desert.
- 14—True.
- 15—False. Commonest call is tremulous chuckling or chattering call. At night it is a high mellow coo-coo-hoo or coo-hoo.
- 16—False. Alamogordo is on U. S. 70.
- 17—True. Flour gold has been panned along its sandy bars for 70 years, but rarely profitably.
- 18—False. Dry manure.
- 19—True.
- 20—False. Knocked from limbs with long hooked poles.



# HERE AND THERE... on the Desert

## ARIZONA

### Navajo Paper Published . . .

WINDOW ROCK—"Current Events," newspaper written in Navajo language, is now being printed to inform Indians, traders, missionaries, district supervisors and others of developments on war fronts and items which will aid their private lives. Need for the paper arose because many interpreters have gone to war or defense work, and non-English speaking Indians must be kept informed of world events.

### Pests Attack Crops . . .

TUCSON—Warning to all farmers, ranchers, and victory gardeners was issued from agriculture office against sudden appearance of millions of white line sphinx, extremely harmful caterpillars. Reports came in that they were destroying tomato and other plants as well as citrus trees throughout this area. Advice of state extension service in Phoenix was sought on combating the pests.

### Poison Antidote Sought . . .

TEMPE—Research work at state teachers college laboratory for purpose of finding an antidote for scorpions' sting is now well under way. With \$2,000 appropriation other experiments on Arizona poisonous animals will be conducted by Dr. Herbert L. Stahnke who says he now has complete equipment and stock to continue work.

### Antelope Season Dates Set . . .

PHOENIX—Dates for Arizona's third buck antelope hunt will be September 30 to October 4 for eastern portion of state, and October 7 to October 11 for western portion. Nine hundred hunting permits were available September 1 at offices of Arizona fish and game commission.

### Indian's Daughter WAC . . .

PHOENIX — Pvt. Grace Frances Thorpe, daughter of famed Indian athlete Jim Thorpe arrived here to begin her new assignment recruiting for Women's Army Corps in Arizona. Formerly employed in war industry, she joined women in service to make an even greater contribution to the war effort.

### Medicine Man Quells Lightning . . .

GANADO—Medicine man was called to conduct all-night "sing" to protect flock and herders after lightning struck and killed 12 sheep from herd of Mrs. Clara Owens, Navajo sheep owner. During thunder storm at Kin-li-chee many other animals were knocked unconscious and the medicine man arrived to save the rest of the flock.

## CALIFORNIA

### Robbing Days End . . .

BISHOP—Huge brown bear which had been robbing outdoor coolers, stealing food, and attempting to enter cabins of Mammoth residents for months met his end in August when he was trapped and shot by Rhys May. Permission to shoot the "too friendly" animal was given by forest rangers in the interest of public safety. He measured nine feet, nine inches in length, weighed about 600 pounds—at last reports, bear meat was quite abundant in Mammoth country, no ration points asked.

### Army Hospital Treats Civilian . . .

BLYTHE—Delbert Simpson was bitten three times on the arm by rattlesnake when his crutch slipped near Blythe army air base last month. Applying his own first aid, he was rushed to base hospital where anti-snake serum and emergency treatment were given. Mr. Simpson fully recovered and returned soon to San Bernardino.

### Dog Reveals Death . . .

BARSTOW—Death of George Elmer Gift, 62-year-old desert miner, was discovered when his dog walked 12 miles into Newberry and refused to leave a store where his master often shopped, until someone followed him back to the isolated cabin. Residents became curious at the dog's actions and drove to Gift's cabin where he lay, apparently victim of heart attack. The miner and his dog had been inseparable companions.

## Desert Lodge RANCHO BORREGO



An informal American Plan guest ranch with the open-hearted hospitality of early California days.

OPENING  
FOR THE FIFTH  
SEASON

A REAL  
DESERT RESORT  
Accommodations Are  
Limited  
(Mail 8 times a wk.)

For Reservations and Information Write to  
Noel and Ruth Crickmer, Managing Owners  
DESERT LODGE—RANCHO BORREGO  
Borrego, California



## 7 Friendly Tips for Wartime Travelers

1. Unless your train trip is really *essential* please don't make it.
2. If you must travel, please do so on Tuesdays or Wednesdays. Avoid week-ends.
3. Cancel space reservations promptly if plans change.
4. Take with you only baggage you'll need on the train. Check other baggage at least a day in advance.
5. Please buy just the Pullman space you really need. Share room accommodations with a friend or business associate.
6. Eat before you board the train if possible.
7. If you eat in the dining car, please remember other folks may be waiting for a table.

# S.P

THE FRIENDLY SOUTHERN PACIFIC

## More Victory Homes . . .

BARSTOW—Construction of 40 more victory homes and a community house for employes of Daggett Douglas Aircraft company was begun in August under contract to Baruch corporation of Los Angeles.

## The Desert TRADING POST

*Classified advertising in this section costs five cents a word, \$1.00 minimum per issue—actually about 1 1/3 cents per thousand readers.*

### MISCELLANEOUS

FOR SALE—12 beautiful perfect prehistoric Indian arrowheads, \$1; 10 tiny perfect translucent chalcedony bird arrowheads, \$1; 10 perfect arrowheads from 10 different states, \$1; perfect stone tomahawk, \$1; 4 perfect spearheads, \$1; 5 stone net sinkers, \$1; 10 perfect stemmed fish scalers, \$1; 7 stone line sinkers, \$1; 4 perfect agate bird arrows, \$1; 5 perfect flint drills, \$1; 7 perfect flint awls, \$1; 10 beautiful round head stunning arrowheads, \$1; 4 fine perfect saw edged arrowheads, \$1; 4 fine perfect flying bird arrowheads, \$1; 4 fine perfect drill-pointed arrowheads, \$1; 4 fine perfect queer shaped arrowheads, \$1; 4 rare perfect double notched above a barbed stem base arrowheads, \$1; 5 perfect double notched above a stemmed base arrowheads, \$1; 12 small perfect knife blades of flint, \$1; rare shaped ceremonial flint, \$1; 3 flint chisels, \$1; 7 quartz crystals from graves, \$1; 10 arrowheads of ten different materials including petrified wood, \$1. All of the above 23 offers for \$20. Locations given on all. 100 good grade assorted arrowheads, \$3.00 prepaid. 100 all perfect translucent chalcedony arrowheads in pinkish, red, creamy white, etc., at \$10.00. 100 very fine mixed arrowheads all perfect showy colors and including many rare shapes and types such as drill pointed, double notched, saw edged, queer shapes, etc., location and name of types given, \$25.00 prepaid. List of thousands of other items free. Caddo Trading Post, Glenwood, Arkansas.

FORTUNE: Complete File, unbound \$55.00 postpaid. ESQUIRE: Complete file, unbound \$40.00 postpaid. N. A. Kovach, 712 So. Hoover St., Los Angeles, Calif.

WANTED—One copy federal writers project New Mexico State Guide. Write Box NA, Desert Magazine, El Centro, California.

### LIVESTOCK

KARAKULS producers of Persian Lamb fur are easy to raise and adapted to the desert which is their native home. For further information write Addis Kelley, 4637 E. 52 Place, Maywood, California.

Karakul Sheep from our Breeding Ranch are especially bred to thrive on the natural feed of the Desert. For information write James Yoakam, Leading Breeder, 1128 No. Hill Ave., Pasadena, California.

### REAL ESTATE

For Imperial Valley Farms —  
W. E. HANCOCK  
"The Farm Land Man"  
Since 1914  
EL CENTRO — — — CALIFORNIA

## Editor Passes . . .

PALM SPRINGS—Harvey Johnson, co-founder of local Desert Sun newspaper died August 9 at rest home in Seal Beach where he had been taken several weeks ago when he became seriously ill. Mr. Johnson began his newspaper career in Minnesota at age of 14, and with Carl Bar-kow founded the Desert Sun in 1927. He was 64 years old at his death.

## Malaria Battle Begun . . .

INDEPENDENCE — Owens valley board of supervisors earmarked \$3,380 fund for county-wide mosquito eradication when representatives of Bishop, Independence, Lone Pine and county health officials appeared before the board to plea for resumption, on health grounds, of mosquito control program. Although no active cases of malaria have yet been reported, it was declared certain that Inyo county soldiers will return after war infected with tropical disease and all preventive measures possible should be taken now.

## One Mule Power . . .

HEMET—Man power and transportation problems have been solved for Ranger Horace Jones of San Jacinto district at Idyllwild. Whenever provisions at lookout station on Tahquitz peak run low, he loads his mule, leads him to the foot of Devil Slide trail, and gives him a thump where it will do the most good. The animal faithfully labors up the trail and arrives in three hours at the peak where he is unloaded, fed, and thumped again. And back he goes to Idyllwild. He may take his time along the way, but he never fails to get there.

## Residences Sold Here . . .

PALM SPRINGS—Two noted homes here exchanged hands during what has been an unusually brisk summer for realty transactions. Home of Charley Morrison was sold via long distance telephone to Illinois state senator Charles B. Weber, and the beautiful home of Mrs. A. Rosenfield was sold to John Hormel, of the packing company. Every piece of town property advertised has been sold within one week, say realty dealers.

## Guayule Growth Improved . . .

INDIO—U. S. forest service and bureau of plant industry workers have been quietly experimenting for improved methods of growing guayule rubber plants for the past year, and have made discoveries which promise to revolutionize nursery practice world over. Killing weeds by oil spraying, eliminating 99 percent cost of weed control, and improved fertilizing methods are among important improvements now being practiced.

## NEVADA

## 1944 Plates Approved . . .

CARSON CITY—State's application for steel for 1944 automobile plates has been approved, according to Secretary of State Malcolm McEachin. McEachin figures on 60,000 plates—one per car—which will require 40,000 pounds of salvaged metal. Made at state prison as usual, 1944 plates will have silver background with numbers of blue.

## Airport Completed . . .

LOVELOCK — C.A.A. \$400,000 airport was completed August 12 with little fanfare or ceremony. Although materials and construction work were the best obtainable and plans are being made for excellent lighting and maintenance, no one is sure just how and by whom the new field will be used. It is as yet unoccupied.

## University President Dies . . .

LAS VEGAS—Dr. Leon Wilson Hartman, 67, president of University of Nevada, died in Palo Alto hospital August 27 after a short illness. Dr. Hartman became university president in October, 1938, had been a faculty member since 1909.

## Antelope Season Soon . . .

RENO—Open season, for first time, on antelope will be allowed in Washoe and Humboldt counties between October 10 and 24. One thousand permits at \$5.00 each will be issued hunters who will be restricted to one buck or doe for entire season.

## Refuge Opened to Hunters . . .

LAS VEGAS—Proclamation issued by Governor E. P. Carville has opened Reese river game refuge to deer hunting from October 10 to November 23. Only bucks can be taken, according to ruling of Nye county board.

## Grass Alarms City Fathers . . .

RENO—Grass is growing in streets of this city, and officials have decided that the crops sprouting from cracks in pavement should be removed before visitors get the idea that the city is becoming a ghost town. The matter was seriously discussed at last council meeting and plans for general city-wide clean up were organized.

## Rare Aster Found . . .

PARADISE VALLEY—High spot in agricultural survey of the valley by Arthur Holmgren, Utah agricultural college, and Dr. Basset Maguire, New York botanical garden, was the finding of rare aster flower near Granite peak. Plant had been reported previously from Steens mountain in Oregon, and further study of its presence here will be made in early summer, 1945.



## NEW MEXICO

### Ceremonial Financial Success . . .

GALLUP—Although only five instead of usual seven programs were given at Inter-Tribal Indian ceremonial this year, gate receipts drew over \$10,000, within \$1,000 of last year's. Because of half rates granted personnel of armed forces and Indians, figures show larger paid attendance than last year.

### Central Highway Completed Soon . . .

ALBUQUERQUE—Second highway, 1,208 miles long, linking United States and Mexico is scheduled to be completed next year. New road will run from Alaska, entering Mexico at El Paso, Texas, and reach to Panama Canal. President Manuel Avila Camacho, at United States-Canada-Mexico road booster delegation meeting, made reports on finances involved, and announced the completion of work in 1944.

### Cattle Cut Needed . . .

GALLUP—Curtailement of 60,000 head of cattle on state ranges was proposed at regional graziers conference to meet impaired range conditions caused by lack of moisture, Harry W. Naylor, grazer, reports. Cattlemen hope that summer rains might reduce this prospective adjustment.

### Adobe Ovens in Africa . . .

ALBUQUERQUE—Cpl. Larry Avila of Albuquerque has solved vast baking problem for Allies in North Africa. When the mess sergeant announced a sharp reduction in pie and cake production because of limited stove facilities, Cpl. Avila set to work and built completely by hand a little Mexican adobe oven. It took him three weeks to mix his own mud and straw, mold adobes and build the round-topped oven just like his ancestors had used. It was such a success that army engineers took over and now similar ovens are used in many prison camps in Africa.

### Hopis Dance at Ceremonial . . .

GALLUP—Ordinance of March 1, 1941, prohibiting Hopi participation in dances outside the reservation, was this year favorably interpreted to allow a team of 25 Indian dancers to appear in Inter-Tribal ceremonial. They were one of the chief new attractions, presenting their Snow Buffalo, Harvest Butterfly, Elk Hunt and surprise clown dances. In past years Hopi participation in the ceremonial was limited to sports and crafts.

Wild turkeys, native to New Mexico, had been domesticated in some Indian pueblos before white man came. Acoma, the Sky City, had flocks of the birds which played prominent role in annual celebration.

## UTAH

### Cattle Census Mounts . . .

SALT LAKE CITY—There may be fewer steaks on the platter but there is more beef on the hoof in Utah this year, according to Roscoe E. Hammond, member of state tax commission. Approximately 16,000 range cattle and 9,000 purebred cattle have been assessed this year over last he said.

### Circus Isn't All Fun . . .

LOGAN—It was black Thursday for Dailey Bros. circus: a truck broke down, a new motor was obtained but it wrecked the transmission. A cage of monkeys fell into a canal. An escaped bear caused an uproar in the town until his capture. Finally, at the evening opening with a large crowd on hand, the lights and seats failed to arrive. The show *didn't* go on.

### Ickes Orders Land Withdrawal . . .

SALT LAKE CITY—Because of suspicion that there may be magnesium, alunite, potash and other minerals in southeastern Utah, Harold L. Ickes, secretary of interior, in May, 1943, ordered withdrawal of nearly 3,000,000 acres so that surface rights may be protected against entry. Lands hereafter may be acquired only under leasing law. Filing of placer or lode mining claims and homesteading now are impossible. Officially, withdrawal is designated "temporary, pending classification of lands," but geological survey has little data on it now and has no suitable funds to make intelligent or thorough classifications anytime in the near future. Presence of minerals is only suspected and not confirmed.

### Mutton—At \$11 per Pound . . .

SALT LAKE CITY—A 300 pound black-faced beauty, yearling Suffolk ram, was sold for \$3,300 at annual ram auction of National Wool Growers association. This was the highest price—\$11 per pound—that has been paid for purebred mutton since 1918.

### New Agency Head . . .

FORT DUCHESNE—Knut Hill, defeated in last election as representative from Fourth Washington district, was appointed superintendent of Uintah and Ouray Indian agency by Secretary Ickes. He assumed his new duties August 15.

### Uintah Grows Potatoes . . .

LOGAN—Farmers of Uintah basin are growing 1,200 acres of potatoes for process in dehydrating plant under construction at Duchesne, extension agronomist Aaron F. Bracken reported. Because isolation had made transportation of potatoes in their natural state difficult and unprofitable, this crop never before had been raised commercially in the state.

## Expansion Plans Denied . . .

SALT LAKE CITY—Newton B. Drury, director of national parks en route to Jackson, Wyoming, denied here that his department was pressing for withdrawal of large areas of land in southern Utah for an Escalante national monument. Contrary to rumors, he asserted that entire Colorado river basin is being studied for recreational possibilities but denied that there were any grandiose schemes for adding immense areas to national park system.

### A WESTERN THRILL

"Courage," a remarkable oil painting 20x60 feet, the Covered Wagon Train crossing the desert in '68. Over a year in painting. On display (free) at Knott's Berry Place where the Boysenberry was introduced to the world and famous for fried chicken dinners with luscious Boysenberry pie.

You'll want (1) A 4-color picture of this huge painting suitable for framing. (2) A 36-page handsomely illustrated souvenir, pictures and original drawings, of Ghost Town Village and story of this roadside stand which grew to a \$600,000 annual business. (3) Two years subscription (12 numbers) to our illustrated bi-monthly magazine of the West. True tales of the days of gold, achievements of westerners today and courageous thoughts for days to come. Mention this paper and enclose one dollar for all three and get authentic western facts. Postpaid. GHOST TOWN NEWS, BUENA PARK, CALIF.

## 100% VIRGIN WOOL HAND-WOVEN TWEEDS

A limited yardage of these beautiful fabrics is still available from our stocks. Hand-woven with painstaking care by our skilled Spanish-American weavers from original designs by Preston McCrossen; distinctive, long-wearing, easy-draping; in weights and patterns for suitings and topcoatings for men and women.

**SPECIAL:** 16 oz. 56 inch width herringbone weave suiting in mixtures of natural gray with light blue, bright green, tan, natural white or gray. \$7.50 per yard. In writing for swatches please specify color preferred.

**McCROSSEN**  
HAND-WOVEN TEXTILES  
SANTA FE NEW MEXICO



## Mojave Desert Gem and Mineral Shop . . .

On Highway 91, 11 Mi. East of Barstow  
One Mile West of Yermo, California  
E. W. SHAW, P. O. Box 363, Yermo, Calif.



**RX**—the complete  
lapidary shop in  
one small machine

No more sales  
during duration

W. A. FELKER 3521 Emerald St., Torrance, California

## THANK YOU . . .

Yes, we want to thank you "rock-hounds" for your kind support during the past year, our first in the rock business. During the past year we have tripled our stock many times, and completely remodeled our showroom. At times we may have been a little slow getting out mail orders, but this is war time, and allowances must be made for the help shortage and slow mail, but now, thanks to your many kind suggestions, we are well organized and better equipped, and can get most orders out on the day after received, thus lessening delay. We are always glad to welcome you at our shop, whether you are a stranger or an old friend, whether you come to buy or just to talk rocks. We are glad to announce, since so many have requested it, that we will be open evenings by appointment, and all day Sunday. We are located at the corner of Hacienda Blvd. (Hwy. 39) and Avocado Crest Rd., at 1400 Hacienda Blvd., in La Habra Heights, 1/4 mile north of Hwy 39's junction with U.S. 101 between Whittier and Fullerton.

Mail Address: Box 331, La Habra, Calif.  
Phone: Whittier 81-707

**The West Coast Mineral Co.**  
SEND FOR FREE PRICE LIST

*Find  
hidden  
values*

**NEW  
MODELS**

GREATER  
EFFICIENCY  
HIGHER  
INTENSITY  
LIGHTER  
WEIGHT

**FREE  
4-Color  
Catalog**

**ULTRA-VIOLET PRODUCTS, Inc.**  
5205 SANTA MONICA BLVD. LOS ANGELES

**MINERALIGHT**  
Instantly identifies **SCHEELITE**

**MINERS — PROSPECTORS  
ATTENTION!**

Are you overlooking hidden riches? Over \$100,000,000.00 worth of Scheelite located by Mineralight users—much of it in gold, lead, silver and copper mining properties. Accurate check for Mercury, too. Models in all sizes shown in new catalog—also are specimens in full color. Money-back guarantee and 20 free are specimens with each lamp.

**WRITE DEPT. T TODAY**

## AMATEUR GEM CUTTER

This page of Desert Magazine is for those who have, or aspire to have, their own gem cutting and polishing equipment. Leland Quick, who conducts this department, is former president of the Los Angeles Lapidary society. He will be glad to answer questions in connections with your lapidary work. Queries should be addressed to Desert Magazine, El Centro, California.

By LELANDE QUICK

The fastest and safest method of trimming a small slab down to cabochon size on the full sized diamond saw is illustrated on the right. The diagram is an idea of Herbert L. Monlux for a vise within a vise. This method eliminates the need of a trimming saw, thereby saving space, money, motors and good materials.

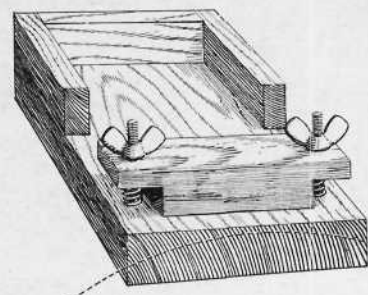
Mr. Monlux explains its construction and operation: "When my trimming saw lost its diamonds due to my careless operation I had to do something to continue my work and the auxiliary vise was the result. It is a base of hard wood about four inches square. On one end there is a cross piece about one inch wide with an offset in each end to allow a fairly heavy spring that forces the vise open as the wing nuts are unscrewed. These fit on quarter-inch stove bolts that extend through the small vise jaw and through the larger block of wood. These bolts should be tight in the large block but loose in the small jaw so the springs can force the jaws open as the wing nuts are unscrewed.

"The strips on the back are nailed to give a space for long slabs. Clamp this vise in the large vise of your regular diamond saw and be careful to adjust it so the saw blade just touches the end of the vise and is exactly parallel with the end. Draw the shape of the desired cabochon on the flat, slip it into the vise until the drawn line just disappears, hold the saw lightly against the end of the vise and feed the rock. Continue these cuts until the trimming is done. The dotted line shows the position of the diamond saw blade."

In cutting some of my Nipomo agate from the "new spot" I have been pleasantly surprised by three things that I didn't know ever happened. I found white sprays in colored agate, I found iris in colored agate and I found sagenite in iris agate. To prove this I have cut a cabochon from peach agate, the left side of which contains three white plumes and the right side of which contains iris with a rainbow running down the center. And the cabochon is nearly a quarter inch thick which proves that agate does not have to be paper thin to show the iris phenomenon. I do admit that thinner agate and white agate shows the iris a lot better.

Each month my mail gets heavier and more interesting but never has it been as heavy as after the announcement of the new agate location near Nipomo. Suddenly it seems that every rock hound and his brother has business that will "take them that way soon and will I tell," etc. By letter and telephone I received many requests which I had to answer politely but firmly by saying "No." Now there are several reasons for this which do not include obstinacy or selfishness. The first reason is that I do not know to whom the land belongs and until I have a talk with the owner I would not be justified in broadcasting the location as the public could become a real pest even during gas rationing if the owner should not be sympathetic to rockhounds.

Another good reason is that I can be pardoned for wanting my own lapidary society to be the first ones "in" and that can't be for a time. And then I want to play around the spot myself for a couple of days instead of a couple



of hours. The things I have found so far keep me awake nights and I must go there soon for a few days or expire.

Several folks have asked me to sell or give them some agate but I never sell a rock and my supply is too limited to give even one specimen to each correspondent. I was prodigal in giving them away thinking I could go back at any time and load up but I made a foolish gesture for now I'm nearly out of agates with no prospects of getting more for a while.

I do believe that I could give the location and little good material would be hauled away because so few people know good sagenite when they see it. It is so unimpressive in the rough that even experienced lapidaries refuse to believe it could be so entrancing when cut. If any reader does get near Nipomo, go into any field and look for the most moth eaten rock with a dirty grey-blue film on the outside and put it in the bag without breaking it "just to see," for it will be good agate with sagenite. If a rock has warts it is agate with marcasite. If it is pickle shaped it is fine agate. If it looks as if the worms have done a good job on it, it is full of moss. If it has any color at all it has great possibilities.

Here and there is a generous sprinkling of an interesting looking banded chocolate colored material. It is chert and is no good for polishing. Everytime the fields are plowed anything can happen so if you go to a spot and get nothing don't pass it by the next year if you happen to go back. The same spot may be plentiful in good stones. If you "just happen to be going that way" and you do find anything good please remember ye olde Amateur Gem Cutter with a specimen will you?

## WHEN YOU MOVE . . .

We want our DESERT readers to receive every issue of their magazine. But we cannot give them this assurance if we are not notified of a change of address by the fifth of the month. Paper restrictions prevent our supplying duplicate issues to those who have failed to let us know their new address before DESERT is mailed each month. If you are going to move and your address is uncertain, please ask us to HOLD your copies for you until you can furnish an address. We'll be glad to cooperate in every way possible—but henceforth we shall be unable to supply extra copies when we have not received proper notice by the fifth of the month.



# GEMS AND MINERALS

ARTHUR L. EATON, Editor

## QUARTZ CRYSTAL FINDS IN CALIFORNIA, NEVADA

First important discovery of quartz crystals in Nevada has been made south of Denio. U. S. bureau of mines reports that the crystals meet government requirements for radio work, range finders and other war instruments. Prices range from one or two dollars per pound for small crystals up to \$75 per pound for high quality chunks.

A massive quartz crystal weighing 87 pounds has been found in the Calaveras crystal property operated by Mervin Porteus near Moke-lumne hill. The large crystal was of such excellent quality that it was sent to the miscellaneous materials division of the war department.

## CURRENT PRICES OF MINERALS ANNOUNCED

Of interest to prospectors, miners and rock-hounds will be the recently announced prices, from New York, of several metals and minerals. Most of these are in cents per pound unless otherwise specified.

Copper—from 11.75 to .12.  
Lead—New York 6.50, St. Louis 6.35.  
Zinc—New York 8.65, St. Louis 8.25.  
Aluminum—.15.  
Antimony—(American) 14.50.  
Platinum—\$35 per ounce.  
Quicksilver—\$196 to \$198 per flask of 76 pounds.  
Powdered tungsten—\$2.60 to \$3.00 per pound of 98 percent.  
Chinese wolframite—up to \$24 per short ton, duty paid.  
Fluorite—ground, \$30 to \$33 per ton for 85½ percent ore at Illinois or Kentucky mines.

## COLORFUL MINERALS

### GOLD

Gold to the average person is just an expensive metal, or at best the material from which high priced jewelry is made. But as a native element gold is one of the most beautiful and attractive of all minerals. It is distinguished by colors ranging through green, golden yellow to reddish yellow, by its softness and its ready malleability. All other golden yellow minerals break when pounded.

Crystals are rare, but filiform and arborescent forms are common, and threads of virgin gold in white quartz or other stone often are very beautiful. Rhombohedral or octahedral forms are found, also skeleton crystals. Wells Fargo Express company, in the early days of gold rushes in the West, gathered what is probably one of the most beautiful collections of gold crystals and specimens in the world. Many other fine collections have been made by museums and individuals. The famous California bear nugget now is owned by the California federation of mineralogical societies.

## STRATEGIC MINERALS

### FLUORITE

Fluorite, calcium fluoride (CaF<sub>2</sub>), is an important war mineral. It takes 1,500 pounds of fluorite to manufacture a flying fortress, and 150 to turn out a General Sherman tank. Thousands of tons of fluorite are used in the production of high test gasoline. It is a basic material in the manufacture of synthetic cryolite, indispensable in the production of aluminum. Cryolite also is an insecticide.

Certain refrigerants depend upon fluorite for their efficiency. It is used as a flux in open hearth furnace processes and to improve steel alloys made in electric furnaces.

James Anderson, an Illinois farmer, discovered fluorite in this country in 1839. About 90 percent of domestic fluorite comes from southern Illinois and western Kentucky. Fluorite ornaments have been recovered from recently excavated Indian mounds.

## WORLD FAMOUS METEORITES AT MEXICO MINES SCHOOL

The meteorites of the Mexican national school of mines (*Instituto de geologia*) are world famous. Some of these have been known for nearly 400 years.

The meteorite of Chupaderos, weighing 14 metric tons, 104 kilograms, came from the famous ranch of Chupaderos, near Jimenez, Chihuahua. It was discovered in 1561 by the Spanish captain Antonio de Espejo, and was moved to Mexico City in 1893 by the engineer Antonio de Castillo. It is composed of holo-siderite and octahedrite.

A second meteorite was brought from the same ranch of Chupaderos in the same year of 1893. This specimen is somewhat smaller than the first, but weighs six metric tons, 767 kilograms. Antonio de Espejo also discovered this meteorite.

A third meteorite, "La Concepcion," weighing three metric tons, 325 kilograms, was brought from the Hacienda de la Concepcion, near Allende, Chihuahua. A fourth, the meteorite of Zacatecas, weighing only 780 kilograms, came as its name implies from the mountainous state of Zacatecas. It was discovered in the year 1792, but was not brought to Mexico City until 1893, when Antonio de Castillo added it to the national collection.

John A. Burgess is in charge of scheelite mining recently begun by Metals Reserve company in the Dorothy Lake section of Yosemite national park. The ore is reported to be very rich. It is mined with air compressors and power drills and sorted under ultra violet light. It has to be transported by pack animals to Kennedy meadows, then trucked to a railroad siding. Operations will continue until winter sets in.

## APPROPRIATE GIFTS . . .

Now is the time to give serious thought to the CHRISTMAS GIFTS for those in the service of our country. Our suggestion would be either BOOKS or a YEARLY MAGAZINE SUBSCRIPTION.

GETTING ACQUAINTED WITH MINERALS—English	\$2.50
GEMS AND GEM MATERIALS—Kraus and Slawson	3.00
MINERALOGY—Kraus, Hunt, Ramsdell	5.00
DESCRIPTIVE LIST OF THE NEW MINERALS—English	3.00
PROSPECTING FOR GOLD AND SILVER—Savage	2.50
HANDBOOK FOR PROSPECTORS—von Bernewitz	4.00
PALEONTOLOGY—Berry	3.50
HISTORICAL GEOLOGY—Moore	4.00
MINERAL DEPOSITS—Lindgren	6.50
FLUORESCENT LIGHT AND ITS APPLICATION—Dake, DeMent	3.00
THE ART OF GEM CUTTING—Young	1.50
QUARTZ FAMILY MINERALS—Dake, Fleener, Wilson	2.50
MANUAL OF MINERALOGY—Dana, Hurlbut	4.00
A TEXT BOOK OF MINERALOGY—Dana	5.50
JEWELRY, GEM CUTTING AND METALCRAFT—Baxter	2.75

THE DESERT MAGAZINE	\$2.50 per Year
THE MINERALOGIST MAGAZINE	2.00 per Year
THE ROCKS AND MINERALS MAGAZINE	2.00 per Year

Our 1943 JUBILEE CATALOG contains 100 pages of information you will find of value. In order to distribute this catalog to those most interested in receiving it, we are asking you to send us 15c in STAMPS—OR send \$1 for 2 large sized polished Agates and include postage for 2 lbs. and a copy of this catalog will be sent to you free. The Agates are worth \$2 anywhere else.

A FREE copy of our 16-page price list on FLUORESCENT LAMPS will be sent on request.

OUR SHOP IS STILL CLOSED TO THE PUBLIC UNTIL FURTHER NOTICE

## WARNER & GRIEGER

405 NINITA PARKWAY

PASADENA 4, CALIFORNIA

Our Phone Number is SYcamore 6-6423

## DIAMONDS REPORTED FOUND IN MEXICAN VOLCANIC AREA

Much interest has been aroused in Mexican and American mining circles recently by the announcement of the discovery of a large deposit of diamonds in alluvial deposits. Naturally, the discoverer, an engineer, has not revealed the exact location, but it is known that the discovery was made in the volcanic region of southwestern Michoacan. It is reported that the fortunate discoverer is displaying several fine specimens, some of them quite large.

### Did You Know That Diamonds . . .

- 1—Are the hardest known minerals?
- 2—Are colorless, blue white, deep blue, red, pink, green, yellow, brown or black?
- 3—Are found in stream bed gravels in Brazil, U.S.A., etc.?
- 4—Are pure carbon?
- 5—Are imitated more often than any stone except pearls?
- 6—Are chemically the same as graphite?
- 7—Are found in "blue ground," a form of peridotite, in Africa?
- 8—Have been found in many parts of U.S.A.?
- 9—Form octahedrons as well as other crystals?
- 10—Have been manufactured artificially, but not for commercial purposes?
- 11—Have a specific gravity of about 3.5?
- 12—Are one of the native elements?
- 13—Have rounded sides in most crystals?
- 14—Will burn to carbon dioxide at very high temperatures?
- 15—Have very perfect cleavage?
- 16—Were first found in India?
- 17—Have been found in U.S.A., Brazil, South Africa, India, Borneo, Australia, U.S.S.R., etc.?
- 18—Are used very extensively in industry?
- 19—Have adamantine luster?
- 20—Sometimes phosphoresce or fluoresce?

## AMONG THE ROCK HUNTERS

"Pete" Bennett, barber, of 8041½ San Fernando road, San Fernando, California, has on display a praiseworthy collection of mineral specimens and polished stones as window decoration. Bennett not only hunts and polishes his own gems, but mounts them as well. He claims that he actually is not a rockhound, but he bears all the earmarks of one except that he does not yet belong to any mineral society. It is only the lack of gasoline which keeps him from joining a society.

Tex Ritter, star of Western movies, is a rockhound and prospector at heart. The sheds and barns at his attractive San Fernando valley rancho contain hundreds of pounds of colorful and interesting specimens collected during his travels. A large outdoor fireplace and grill is adorned with many choice pieces. A central plaque of carved sandstone, depicting a covered wagon, is surrounded by groups of crystals and highly colored minerals. Tex is interested in mines and minerals and keeps his eyes open for likely prospects whenever he is on location.

Fred E. Gray, manager for Desert Silver, is supervising development of molybdenum deposits in the Liberty mine and adjoining properties of San Antonio district, Nevada.

Long Beach mineral society, according to "Hard Rock Shorty," held one of its outstanding meetings of the year August 13, at a potluck dinner in The 9 Hole Clubhouse. There were movies and many choice door prizes.

Twenty-piece collection of petrified wood from Petrified Forest national monument near Holbrook is being displayed at Arizona capitol in Phoenix. Arranged by Governor Osborn and John Scott, assistant secretary of state, the collection includes red, black, yellow and rainbow pieces, stump root and other interesting specimens.

Country home of Frank and Daisy Dodson near Selma, California, was setting August 3 for meeting of Sequoia mineral society. Picnic supper on the lawn was served to 44 members and friends by the Selma group. Business meeting was followed by reading of letters from absent members: Pvt. Dora Andersen gave an account of her WAC activities at Camp Des Moines, Iowa; Viola Dresser wrote from Alabama where she had gone to be near Major Wilfred Dresser. Gate prizes and donated specimens were given.

Virginia G. Breed, Kingsburg rockhound, is in Des Moines where she has entered WAC officers training. Her I.Q. and Aptitude ratings eliminated need for customary six weeks basic training.

George Krag, Reedley, is Sequoia mineral society's newest member.

E. C. Cline, San Bernardino, California, told of searching for rocks and minerals on the Oregon coast and around Mt. Baker, Washington, at August first meeting of Orange Belt mineralogical society. Thirty-six members and guests gathered for a covered dish dinner in Pinetum at Sylvan park, Redlands. It was voted to hold September 12 meeting at the same place.

T. Mac Smith and E. P. Crawford plan to start mica production at the Mica Giant mine in the Hualpai mountains, Arizona, upon completion of a 16-mile access road. Federal engineers pronounce the white muscovite and amber mica in the 70-foot dike suitable for industrial uses.

S. R. Zimmerley of the Nevada bureau of mines states that the most desirable quartz for war instruments comes in pieces weighing about two pounds. Crystals must be reasonably free from fractures and more than one inch in diameter. Such material is worth \$10 a pound.

West Coast mineral society held its annual potluck dinner at Speer's western trails museum near Huntington Beach. The group has met annually at Speer's museum since it was organized about nine years ago. The museum has been enlarged this past year and many specimens added.

Searles Lake gem and mineral society picnicked at Moonstone beach at the south end of the lake for the June meeting. Preparations for the annual hobby show are under way.

Dr. John Herman, Los Angeles polarograph expert, addressed Dana mineral clubs on oxygen at the regular August 13 meeting.

U. S. Steel corporation subsidiaries produced 600,000 tons of steel ingots in the week of August 16-23—practically 100 percent of theoretical capacity.

## GEM MART

ADVERTISING RATE  
5c a Word — Minimum \$1.00

Swisher Rocks and Minerals, also Corals, Shells, Statues, etc. We also buy mineral species and woods. Must be good. Swishers, 5254 So. Broadway, Los Angeles 37, Calif.

20 mixed fossils for a dollar bill. 100 ancient Indian arrowheads \$3.00. 10 tiny bird arrowheads \$1.00. List Free. Lear Howell, Glenwood, Ark.

\$2.50 brings you prepaid six rare and beautiful crystallized Arizona minerals. Vanadinite, Dioptase, Wulfenite, Willemite, Chrysocolla, Azurite. Specimens 1½x2 or larger. Wiener Mineral Co., Box 509, Tucson, Arizona.

INDIAN RELICS, Curios, Coins, Minerals, Books, Old Buttons, Old Glass, Old West Photos, Weapons, Catalog 5c. Vernon Lemley, Osborne, Kansas.

Minerals, Fossils, Gems, Stamps, Coins, Pistols, Glass, Bills, Indian Relics, Bead Work. Catalogue 5c. Las Cruces Curio Store, Las Cruces, New Mexico.

LAPIS LAZULI from Italian Mountain, Colo. Equal in color and quality to finest specimens in Smithsonian. Sawed pieces about 3/16 inch thick, with hard white matrix, at \$2.00 per oz. Finest quality, sawed slabs, deep Ultramarine Blue, matrix of gold pyrites, at \$4.00 per oz. ENDNER'S, Gunnison, Colo.

CABOCHON CUTTERS with our unnamed mixture of good cutting material sawed ready to shape cut and polish you can finish several fine stones. 25 cents for two ounces and with money back guarantee. Gaskill, 400 North Muscatel, San Gabriel, Calif.

### HERE ARE BIG BARGAINS . . .

Rare Crystals of all kinds, \$1.50 and up. Montana Sapphires, cutting quality, 60c a carat. Sawed California Geodes, 25c and 50c each. Send for my Gem List, 10c, cost returned on first order. Specimens can be returned if not satisfactory. The Desert Rats Nest, 2667 E. Colorado, E. Pasadena, Calif.

ANTIQUE JEWELRY — Locketts, brooches, chains, rings, etc. 12 assorted, \$3.00. B. Lowe, Box 311, St. Louis, Mo.

AGATES, Jaspers, Opalized and Agatized woods, Thunder eggs, polka dot and other specimens. Three pound assortment \$1.50 postpaid. Glass floats, price list on request. Jay Ransom, 1753 Mentone Ave., Pasadena, Calif.

ZIRCONS—OPALS—CAMEOS — 3 Genuine diamond cut Zircons (total 2½ carat) \$2.75. Twelve Genuine Opals \$1.50. Twelve Genuine Cameos \$2.50. B. Lowe, Box 311, St. Louis, Mo.

100 JEWELRY STONES removed from rings, etc., assorted \$2.00. B. Lowe, Box 311, St. Louis, Mo.

ROCK COLLECTORS ATTENTION—GET ACQUAINTED OFFER—Send two dollars war stamps or coin, for five showy specimens of Rainbow Rock, Tourmaline, Chalcantite, Limonite Pseudomorphs, Iron Pyrite, Inclusion QTZ. XL, Fluorite, Beryl, Hematite XLS., Martite, Pecos Diamond, Quartzoid, Neptunite, Topaz, Iceland Spar. All 15 for \$5.00. The Rockologist Chuckawalla Slim, 627 E. Garvey Blvd., Garvey, Calif.

### ROCKHOUNDS . . .

We have a large stock of Cabinet specimens, Gem material, Cut stones, Mineral books. We want to buy good gem material and specimens. Come and see us and join our Rockhound Colony.

THE COLORADO GEM CO.  
Bayfield, Colorado



## RARE "LARKSPUR" OF THE MINERAL KINGDOM

By BERTHA GREELEY BROWN

### CHALCANTHITE: $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$

**Crystallography.** Triclinic, pinacoidal. Found in crystals, also massive, stalactitic and reniform.

**Physical properties.** Luster vitreous. Color deep azure blue. Taste metallic.

**Composition.** Hydrous copper sulphate. Water content 31.8 percent.

—Dana, Manual of Mineralogy, 15th Ed. revised by C. S. Hurlbut, Jr.

E. D. Mills of Tiger, Arizona, handed me a box of crystals with this comment, "Now here's a bargain."

"But I'm not looking for bargains," I explained. "I am a hobbyist looking for unusual specimens to add to my collection. I know I can't prospect in this mining district so I am willing to pay well what they are worth." Until that moment Mr. Mills had taken my husband, E. K. Brown, and me to be commercial mineral dealers.

After setting him right, curiosity got the best of me—I had to investigate the "bargain." Removing wrappings from the rocks I found all to be of one kind, orange colored, lamellar crystals of wulfenite (lead molybdate) held in dull gangue material and intermingled with willemite crystals, a silicate of zinc. Since I did not want the full box of specimens, Mr. Mills gave me the price of single pieces. I found myself selecting many, for I had in mind friends who envy me the luck of being located in the Southwest for the duration. I pacify the green-eyed monster, jealousy, before he has them in his sway with an occasional tidbit of beauty.

Many times when viewing collections here in Arizona, I have asked the source of beautiful specimens. Often the answer has been "from the Mammoth district." Prospecting about mines is taboo. But lately E.K. was transferred in Pinal county, and at our first opportunity we drove to the locality so fabulously rich in minerals—over 40 listed in a bulletin issued by the University of Arizona. This was Apache country and mining did not become feasible until after the San Diego-San Antonio stage line was built with posts at the sites of Benson and Winkelman. In the early eighties, mining reached a point that warranted the building of a stamp mill at Mammoth.

Leaving Florence, we followed highway 80 to 11 miles south of Owlhead. Here we turned left, traveling on 77 toward the San Pedro, a river that heads in Mexico, rips northward through arid lands with an onrush toward ranges of old-man peaks, walking tall, scarred of face, thin lipped and grim. At the foot of the assemblage it greets the Gila, mountain born.

Three miles west of the town of Mammoth, we turned to the left on a steep side road and drove to Tiger where we found Mr. Mills, mine assayer. He explained that all specimens of value to collectors were spotted by the miners. These he bought and in turn sold—I presume to the highest bidder. Our prospecting began in his crowded store room. After buying a dozen wulfenite and willemite specimens we found the spear of chalcantinite, a rare copper ore, new to us and mentioned in few mineralogical texts.

In *Minerals of Arizona*, F. W. Galbraith says this ore is found in five counties of Arizona. It is most plentiful in the Clifton-Morenci district where chalcantinite stalactites nearly fill one of the upper drifts of the Jay shaft. Dana records it as "rare" and found only in arid regions.

When I first saw this glorious stalactite it seemed too lovely to touch, for the surface has

a sheen like gossamer web—a mineral flowering like the spike of larkspur. Now, in my collection, it is the color of blue storm clouds edging into green, soft as lush meadow grass overcast with shadows. One end shows the break made when plucked from the cave ceiling where it grew downward. The lower end of the material is leaf-like, curled slightly and folded into bud shape. The whole surface is minutely grape-like and frosted (drusy).

When we left Tiger we drove to Mammoth and then north on highway 77. About five miles north of the town we hunted a short time for semi-precious minerals. E. K. found few gypsum crystals and I found one lone desert rose (chalcidony)—enough to mark the place for future prospecting. But, hobby prospecting is out for the duration. E.K. grumbles that life scarcely will be worth living. I grant that quest is the number one lure but I know there are other angles on which to hang our interests. Without the use of gas or rubber, we can dig into mineral texts and become better acquainted with the rocks on hand.

## Cogitations . . .

### Of a Rockhound

By LOUISE EATON

Soljers 'n desert rockhounds is alike in one respect—the desire to possess jeeps just as soon as Uncle Sam's thru usin' them—'r even sooner if possible. Jeeps is surely admirably adapted to desert travel. They has good clearance 'n lots of power 'n they laughs at rough ground. In fact, you almost 'spects 'em to be able to burrow into a sandhill like a lizard 'n come out the other side.

. . .

Folks has to have relief outlets same as pressure cookers has safety valves. Field trippin', of course, was the rockhound's best petcock. Now that field trips is just pleasant memories 'r wishful projects, rockhounds is likely to erupt in some other direction such as paintin' 'r writin', besides cuttin' 'n polishin' rocks. They even sometimes studies outta books.

P'rhaps bad grammar 'n incorrect spellin' is a sorta safety valve for some folks too.

. . .

Al Brigger, Los Angeles authority on diatoms, is interested in making micro mounts of petrified wood.

B. J. Purdy, in going over the November, 1941, issue, found and again brought to our attention the error in connection with Pecos diamonds. The correct information on this subject was sent to us shortly afterwards and published in a succeeding issue. Mr. Purdy's information corroborates that previously sent us.

. . .

It takes nine pounds of bauxite and ten to 12 kilowatts of electricity to produce one pound of raw molten aluminum.

. . .

Approximately 1,000 tons of talc from the dumps at the Pittsburg Landing mine in the Mt. Bullion field are being ground to make insecticide. Talc from this mine also is used in the manufacture of gunpowder and other war products.

## GUAYULE HARVESTERS MAY HASTEN ROCKHOUND TRIPS

Rockhounds will be interested in the news that their neighbors in Mexico really are trying to do something about the rubber shortage which is keeping the American rockhound at home for the duration. It long has been known that the deserts of southwestern United States and northern Mexico produce great quantities of rubber-bearing guayule, but little was done about it until the present rubber shortage came along. Now, the Mexican farmer, laborer and countryman are industriously collecting the valuable weed, wherever found in the desert, making it into bales and shipping to the points where it will do the most good. More power to them!

**Covington LAPIDARY EQUIPMENT**

FOR QUARTZ CRYSTAL PRODUCTION



16-inch LAP UNIT

14-inch Power Feed DIAMOND SAW

Sold only on priority.

Send for Literature to  
Covington Lapidary Engineering Co.  
Redlands, Cal.

## STUDENTS AND HOBBYISTS ALIKE FIND THE

## DANA MAGAZINE

A Source of Accurate and Always Timely and Interesting Information on the Absorbing Subjects of . . .

- GEOLOGY
- GEMOLOGY
- MINERALOGY

Subscriptions are \$2.00 Yearly;  
Single Copies 20c

TELEPHONE TUcker 6801

428 Metropolitan Bldg.  
LOS ANGELES, CALIF.

## HILTON'S Art and Gem Shop

JOHN W. HILTON, Owner

On U. S. Highway 99, Ten Miles South of Indio

ACROSS FROM VALERIE JEAN DATE SHOP. P. O. ADDRESS, THERMAL, CALIF.





Hansen, John. *I Went to the Hogan of the Kinlichini* ..... Aug 43 p5  
*Hard Rock Shorty* ..... Each issue  
Harrington, Johns. *Adventure in a Nevada Cave* ..... May 43 p18  
Harrington, Johns. *Writers of the Desert* ..... Jan 43 p18  
Harris, Shorty ..... Dec 42 p9  
Heflin, Mrs. Mildred ..... Aug 43 p5  
Heintzleman Maj. Samuel P. .... Apr 43 p4  
Henderson, Cpl. Rand. *Close-Ups* ..... May 43 p3  
Henderson, Randall. *Miner's Hell—'easy to get in, and the devil to get out'* ..... Dec 42 p5  
Henry mountains, Utah ..... Nov 42 p5  
..... Aug 43 p10, Oct 43 p25  
Hilton, John W. Author of—  
*Gold That Came from Goldfield* .. Nov 42 p8  
*Grand Canyon Artist* ..... Sep 43 p25  
Hilton, John W. *Close-Ups* ..... Mar 43 p3  
Hoerman, Carl ..... Sep 43 p25  
Hopi mesas, Arizona ..... Feb 43 p25  
Hungry Bill, Indian ..... May 43 p11

## I

Independence Rock, Wyoming ..... Jun 43 p9  
Indian basketry ..... Nov 42 p21, Apr 43 p16  
..... Sep 43 p5  
Indian ceremonials—  
Hualpai funerals ..... Nov 42 p21  
Mojave mourning day ..... Feb 43 p9  
Navajo Red Ant healing chant ..... Jul 43 p5  
Indian cookery—  
Mescal roasting ..... Nov 42 p21  
Pinole making ..... Mar 43 p25  
Saguaro cactus fruit ..... Sep 43 p5  
Indian legends—  
Maricopa and Pima ..... May 43 p9  
Navajo ..... Dec 42 p19, Mar 43 p16  
Pahute ..... Apr 43 p16  
Papago ..... Mar 43 p13, June 43 p26  
..... Aug 43 p18  
Indian petroglyphs ..... Sep 43 p18  
Indian ruins ..... Jan 43 p5  
Indians—  
Apache ..... Nov 42 p17, Oct 43 p13  
Hopi ..... Feb 43 p25  
Hualpai ..... Nov 42 p21  
Mojave ..... Feb 43 p9  
Navajo ..... Dec 42 p19, Jan 43 p17  
..... Feb 43 p18, Jul 43 p5, Aug 43 p5  
..... Oct 43 p19  
Pahute ..... Apr 43 p16, Jun 43 p5  
Papago ..... Mar 43 p13, Sep 43 p5  
Yuma ..... Apr 43 p4  
Indians, prehistoric ..... Nov 42 p24, Mar 43 p7  
..... Sep 43 p18  
Inglesby, Dr. A. L. .... Nov 42 p5, Mar 43 p22  
Inscription hunting ..... Apr 43 p22, Jun 43 p9  
Inscription Rock (El Morro),  
New Mexico ..... Jun 43 p9  
Inyo county, California ..... Apr 43 p9  
Inyo Register, newspaper ..... Apr 43 p9

## J

Jackson, J. Worthen ..... Mar 43 p7  
Japanese Relocation Center,  
Poston, Arizona ..... Feb 43 p9  
Jeffords, Capt. Thomas Jonathan .. Nov 42 p17  
Jensen, Bill ..... May 43 p24  
Johnson, Willis ..... Jan 43 p5  
Johnson County War, 1892 ..... Mar 43 p22  
Julien, Denis ..... Jun 43 p9

## K

Kangaroo rat ..... Sep 43 p11  
Keagle, Cora L. Author of—  
*Charley Williams of the Calico Hills* ..... Mar 43 p10  
*Calico's Canine Carrier* ..... Jun 43 p16  
Kearny, Gen. Stephen W. .... Feb 43 p28  
Kegley, Howard. *Rubber Plant of the Desert* ..... Nov 42 p29  
Kelland, Clarence Budington ..... Aug 43 p15

Kelly, Charles. Author of—  
*Gem Stones Found in Veins of Coal* ..... Nov 42 p5  
*We Climbed to the Moki Ruin* ..... Jan 43 p5  
*Dirty Devil—The Saga of a River* ..... Feb 43 p15  
*Ancient Antelope Run* ..... Mar 43 p7  
*Saddle Tramp* ..... Mar 43 p22  
*We Found the Walls of Jericho* ..... May 43 p24  
*Autographs in Stone* ..... Jun 43 p9  
*Dream Home in a Utah Valley* ..... Jul 43 p15  
*Quest for Gold in Henry Mountains* ..... Aug 43 p10  
*We Found a Gallery of Indian Etchings* ..... Sep 43 p18  
*Lost Josephine Gold Mine* ..... Oct 43 p25  
Kelly, Charles. *Close-Ups* ..... Jun 43 p3  
Kennard, Ted ..... Oct 43 p5  
Kino, Father Eusebio ..... Sep 43 p5  
Kit fox ..... Jan 43 p14  
Knee, Lurton and Margaret ..... Jul 43 p15

## L

Lake Mead ..... Nov 42 p24  
Lang, Franz ..... Jul 43 p11  
Laudermilk, Jerry. Author of—  
*Cave of the Giant Sloths* ..... Nov 42 p24  
*Yucca Moth—A Desert Romance* ..... Dec 42 p13  
*Inside Story of Geodes and Thundereggs* ..... May 43 p20  
*Desert Color* ..... Jul 43 p20  
*Mirage—Magic of the Air* ..... Sep 43 p20  
*I Learned About Desert Thirst* ..... Sep 43 p27  
*Case of the Split Rocks* ..... Oct 43 p5  
"liesegang effect" (thunderegg banding) ..... May 43 p20  
Lincoln, Dr. A. L. .... Apr 43 p4  
Locke, Harry ..... Mar 43 p17, Jul 43 p30  
Lost Mines—  
Black Butte Gold ..... Aug 43 p24  
Lost Don Joaquin Gold Mine ..... May 43 p9  
Lost Organ Grinders' Ledge ..... Nov 42 p15  
Lost Josephine Gold Mine ..... Oct 43 p25  
Loughhead, Flora ..... Apr 43 p13, Jul 43 p34  
Luoma, Julius ..... Jun 43 p9  
Lyons, Ernest H., Jr. .... May 43 p24

## M

MacCloskey, Harry ..... Mar 43 p22  
Manuscripts, requirements ..... Aug 43 p14  
Maguire, Don ..... Nov 42 p5  
McNally, James ..... Oct 43 p19  
Metals, magnetism in ..... Jan 43 p33  
Meteorites ..... Dec 42 p25  
Mexicans, Chuska Mt. Battle ..... Feb 43 p18  
Minerals—  
Bronzite ..... May 43 p33  
Carnotite ..... Aug 43 p33  
Calcite ..... Feb 43 p34, Mar 43 p33  
..... Sep 43 p35  
Celestite ..... Aug 43 p33  
Chalcantite ..... Oct 43 p35  
Chrysocolla ..... Nov 42 p43  
Cuprite ..... Dec 42 p37  
Diamonds ..... Oct 43 p34  
Diopase ..... Mar 43 p33  
Emeralds ..... Jun 43 p35  
Fluorite ..... Oct 43 p33  
Garnets ..... Dec 42 p35  
Geodes, thundereggs ..... May 43 p20  
Gold ..... Oct 43 p33  
Halite ..... Apr 43 p33  
Indium ..... Jan 43 p33  
Jade ..... Dec 42 p35, Sep 43 p33  
Jet ..... Nov 42 p5, Dec 42 p12  
Magnesium ..... Mar 43 p33  
Malachite ..... Jan 43 p35  
Molybdenum ..... Jan 43 p33  
Opals ..... Apr 43 p13, Jul 43 p34  
Perlite ..... Jan 43 p33  
Purpurite ..... Dec 42 p35  
Pyrite ..... Jun 43 p33  
Quartz crystals ..... Jan 43 p33  
..... Oct 43 pp28, 33

Quartzoid ..... Apr 43 p33  
Rhodochrosite ..... Aug 43 p36  
Rhodonite ..... May 43 p33  
Sapphires ..... Jul 43 p37  
Starlite, Staurolite ..... Dec 42 p35  
Sulfur ..... Sep 43 p33  
Tin ..... Jun 43 p25  
Mining, gold ..... Nov 42 p8, Jan 43 p11  
..... Jun 43 p27, Aug 43 p10  
Mirages, types and causes ..... Sep 43 p20  
Mitchell, John D. Author of—  
*Lost Organ Grinders' Ledge* ..... Nov 42 p15  
*Don Joaquin and His Gold Mine* ..... May 43 p9  
Moki Canyon ruin, Utah ..... Jan 43 p5  
Monument Valley ..... Jun 43 p20, Aug 43 p5  
Mormons, settlements ..... Jan 43 p23  
..... Feb 43 p15  
Mossman, Mildred G. *Mushroom Rock* ..... Nov 42 p20  
Muav Cave, Nevada ..... Nov 42 p24  
Muench, Joyce Rockwood. *Shrine of the Three Babies* ..... Mar 43 p13  
Munz, Dr. Philip ..... Nov 42 p24  
Mushroom Rock, California ..... Nov 42 p20

## N

Names Hill, Wyoming ..... Jun 43 p9  
Navajo mountain, Arizona ..... Oct 43 p19  
Nimmons, Dick ..... Nov 42 p24  
Nine Mile Canyon, Utah ..... Sep 43 p18  
Nininger, H. H. *How to Recognize Meteorites* ..... Dec 42 p25

## O

Oakes, Harry ..... May 43 p11  
O'Brien, Frank ..... Aug 43 p5  
Ogden, Harry ..... Oct 43 p25  
Old Stage Station, Arizona ..... Apr 43 p22  
Olgean, Frank ..... Oct 43 p25  
Oljato Trading Post, Utah ..... Aug 43 p5  
Owens Valley, California ..... Apr 43 p9

## P

Panamint Tom, Indian ..... May 43 p11  
Papago baby shrine ..... Mar 43 p13, Jun 43 p26  
..... Aug 43 p18  
Pascual, Indian leader ..... Apr 43 p4  
Peirson, Erma. *Bottle House* ..... Jan 43 p28  
Pepo, Mary ..... Apr 43 p16, June 43 p5  
Petroglyphs, Indian ..... Sep 43 p18  
Phillips, Dan Kinlichini ..... Aug 43 p5  
Photographs, covers by—  
Loyd Cooper, Nov 42; J. E. Bryon, Dec 42;  
T. B. Cunningham, Jan 43; Fred. H. Ragsdale, Feb 43; George McClellan Bradt, Mar 43; Frashers, Apr 43; Claire Meyer Proctor, May 43; Edward J. Fisher, Jun 43; Dick Whittington, Jul 43; Hubert A. Lowman, Aug 43; The Wigwam, Sep 43; Fred H. Ragsdale, Oct 43.  
Photographs, prize winners by—  
Joe Orr, Fred H. Ragsdale, Nov 42; Dick Freeman, F. D. Richardson, Dec 42; Fred H. Ragsdale, G. E. Kirkpatrick, Jan 43; Fred H. Ragsdale, Joe Orr, Feb 43; Fred H. Ragsdale, Dorothy A. Brown, Mar 43; Dick Freeman, Virgil Ford, Apr 43; Willard Luce, L. Ph. Bolander, Jr., May 43; Fred H. Ragsdale, Darwin Acheson, Jun 43; Roy Miller, Phil Remington, Jul 43.  
Pinacate Beetles ..... Apr 43 p2, Jun 43 p13  
Pinole, preparation ..... Mar 43 p25  
Pinyon pine trees ..... May 43 p17  
Pleasant Creek, Utah ..... Jul 43 p15  
Pocket Mouse ..... Sep 43 p11  
Poetry ..... Each issue  
Poston Japanese relocation center ..... Feb 43 p9  
Powell, Major John Wesley ..... Feb 43 p15  
Pratt, Helen. *Apaches Scalped My Doll* ..... Oct 43 p13  
Pronuba, yucca moth ..... Dec 42 p15  
Pyramid Lake, Nevada ..... Apr 43 p16, Jun 43 p5

## Q

- Quick, Leland. Editor of  
*Amateur Gem Cutter* ..... Each issue  
Quick, Leland. *Precious Opal of the  
Virgin Valley* ..... Apr 43 p13

## R

- Rampart Cave, Arizona ..... Nov 42 p24  
Randsburg, California ..... Jun 43 p27  
Register Cliff, Wyoming ..... Jun 43 p9  
Remington, Phil ..... Dec 42 p5  
Rice, Mrs. Nora Lee ..... Apr 43 p22  
Riley, Dr. Charles V. ..... Dec 42 p13  
Robbers' Roost, Utah ..... Mar 43 p22  
Rock Collecting ..... Feb 43 p5, Mar 43 p10  
Rocks, spalled ..... Aug 43 p36  
Roop, Deb ..... Oct 43 p5  
Roop, Deb ..... Apr 43 p13  
Ross, Lillian Bos. *Writers of  
the Desert* ..... Nov 42 p34  
Rubber plant, guayule ..... Nov 42 p29  
Rugg, Fred ..... Apr 43 p13  
Ryan, Joe ..... Dec 42 p9

## S

- Saguaro cactus, fruit harvest ..... Sep 43 p5  
Sand, composition ..... Oct 43 p17  
Schmidt, Mrs. H. G. *Double Arch* ..... Dec 42 p24  
Shoshone, California ..... May 43 p11  
Sketching, desert ..... Jul 43 p20  
Slate Range Maintaneers ..... Jan 43 p26  
Sloths, giant ..... Nov 42 p24  
Snow, Milton. *Navajo Recruit* ..... Jan 43 p17  
Snow, Milton. *Writers of  
the Desert* ..... Jan 43 p18  
South, Marshal. *Desert Refuge* ..... Each issue  
South, Marshal ..... Aug 43 p13  
Spalling, of rocks ..... Oct 43 p5  
Spanish inscription, Arizona ..... Apr 43 p22  
Spider Woman, legend ..... Mar 43 p16

- Stacy, Alwin and Everett ..... Jun 43 p16  
Stephens, Phil K. *Courage is Born  
of the Desert* ..... Jul 43 p26  
Stewart, Wiley ..... Nov 42 p5  
Stone, Margaret. Author of—  
*Basketmaker of the Hualpai* ..... Nov 42 p21  
*Mojaves and Their  
Next Door Neighbors* ..... Feb 43 p9  
*Craftsman of the Pabutes* ..... Apr 43 p16  
*Pelicans of Pyramid* ..... Jun 43 p5  
*Bean People of the Cactus Forest* ..... Sep 43 p5  
Stovall, Dennis. *Guardian of the  
Little Rock House* ..... Nov 42 p13  
Superstition Mt., Arizona ..... Jun 43 p18  
Sweeney, Lt. Thomas W. ..... Apr 43 p4

## T

- Tecopah, Indian chief ..... Sep 43 p2  
Terriss, Tom. *The Canyon  
of Death* ..... Jul 43 p8  
Thundereggs, formation ..... May 43 p20  
Trelease, Dr. William ..... Dec 42 p13  
Truckee Dam, Nevada ..... Jun 43 p5  
Tullar, Richard M. ..... Apr 43 p13

## U

- Uintah Basin, Utah ..... Sep 43 p18

## V

- Van Valkenburgh, Richard. Author of—  
*Christmas Legend of the Navajo* ..... Dec 42 p19  
*Massacre in the Mountains* ..... Feb 43 p18  
*Spanish Inscription in the  
Big Carriso* ..... Apr 43 p22  
*I Saw the Red Ant Chant* ..... Jul 43 p5  
*Blood Revenge of the Navajo* ..... Oct 43 p19  
Vigil, Ambrosio ..... Jan 43 p11  
Virgin Valley, Nevada ..... Apr 43 p13  
Jul 43 p34

## W

- Walcott, Samuel ..... Oct 43 p19  
Walker, Frank ..... Feb 43 p18  
Walker Lake, Nevada ..... Apr 43 p16  
Walls of Jericho, Utah ..... May 43 p24  
Walpi, Arizona ..... Feb 43 p25  
Washington Pass, New Mexico ..... Feb 43 p18  
Washington printing press ..... Apr 43 p9  
Wayne county, Utah ..... May 43 p24  
Weaver, Leo. *Walpi* ..... Feb 43 p25  
Weber-Marshall, Jean. *Double  
Arch* ..... Dec 42 p24  
White-footed deer mouse ..... Sep 43 p11  
Whitman, Dr. A. R. ..... May 43 p20  
Wickenburg, Arizona ..... Sep 43 p27  
Williams, Charley ..... Mar 43 p10  
Wolverton, Ed ..... Aug 43 p10  
Wood rat ..... Sep 43 p11  
Woods, Clee. *He Found His Glory Hole in  
His Own Front Yard* ..... Jan 43 p11  
Woodson, Weldon D. *How Dangerous is  
the Gila Monster?* ..... Jul 43 p11  
Woodson, Weldon D. *Close-Ups* ..... Aug 43 p3  
Woodward, Arthur. *When Scalp Hunters  
Ran the Yuma Ferryboat* ..... Apr 43 p4

## Y

- Yaquitepec, painting, description ..... Aug 43 p15  
Yellow Aster mine, Calif. ..... June 43 p27  
Younger, Tilly ..... May 43 p11  
Yucca, weaving ..... May 43 p15  
Yucca moth (pronuba) ..... Dec 42 p13  
Yuha Basin, California ..... Nov 42 p46  
Yuma, Arizona ..... Apr 43 p4

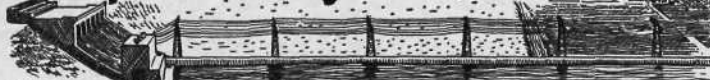
## Z

- Ziplinsky, Harry ..... Mar 43 p22

# The Final Chapter . . .

- The people of Imperial Valley will soon write the final chapter in a thrilling story of progress that has been twenty-five years in the making.
- For a quarter of a century they have fought to secure the future of this fertile valley—to insure the vital water supply—to guarantee the economic future by full development of the great natural resource of power on the All American canal.
- Water they now have in abundance thanks to the All American canal and Boulder dam—danger of flood or drouth is past—soon the story will be completed as full development of the power resource is assured and payment of the canal debt by power sales become possible.
- By purchase of the competing power system—by elimination of this costly competition—by securing a market for double their present sales—the program will be completed and the final chapter written in this saga of progress.

## Imperial Irrigation District



Use Your Own Power—Make it Pay for the All American Canal





By RANDALL HENDERSON

**B**USHTOWN, AFRICA (With the U. S. Armed Forces)  
—I was fortunate enough to draw an assignment as convoy officer on a 700-mile truck trip to a remote American outpost in equatorial Africa.

The route took us through both French and British colonies, where grinning black savages waved at us from the side of the road and begged candy and cigarettes and chewing gum when we stopped.

At one place we rode 30 miles through an immense coconut grove where men, women and children sat beside huge piles of coconuts and slashed them in two so the meat would dry for copra. The shells are used as fuel.

In another sector the main income is from palm oil, obtained from a small nut that grows on a tree with long fronds like a date palm. Since there is no wheeled transportation, the women carry the newly gathered nuts to the cracking sheds in baskets on their heads. After the kernels have been extracted, they are rolled to market in barrels. We passed hundreds of natives rolling their barrels along the road—sometimes for miles.

\* \* \*

Once when the convoy stopped for a few minutes, I followed a trail that led through the jungle to a little cluster of grass-roofed huts not far from the road. When I hesitated at the entrance to the bamboo-fenced compound, a fine featured young African woman came and opened wide the gate, so I might know I was welcome. There were two mud-and-grass huts and a ramada within the enclosure. A huge mango tree spread its shade over much of the yard. The place was clean and orderly.

The young woman spoke in her native language to an elderly couple in the enclosure, then placed a box in the shade of the mango and motioned for me to have a seat. A moment later the old man appeared with a huge tray, and held it while the old woman reached beneath some bagging and brought out two oranges, two coconuts and a pineapple. They offered them to me on the tray. I was sorry I could not express my thanks either in their language or in a gift of clothing or food. Their hospitality was so genuine that I felt like a piker when I laid a 25-franc note on the tray. But it was all I could do, and I am sure they understood. They followed me to the gate and waved as our convoy went on its way.

\* \* \*

The religion of these people is juju. Perhaps it would be more accurate to say that the term covers their superstitions. It compares with the "medicine" of the Navajo tribesmen.

Along the roadside one often passes little shrines of sticks or mud. The only answer I could ever get when I asked a native about these was the word "juju." When it comes to discussing their gods and the good and evil spirits that enter into their beliefs, they are as reticent as an American Indian.

\* \* \*

At one place, while I was waiting for our trucks to be ferried across a lagoon, I wandered through a nearby village and saw three stone idols in a row along the street. They were about

three feet high. The sculptor had modeled them after monkey faces, with gaping mouths and white shells for eyes. A crowd of villagers gathered and laughed and chattered as I photographed the images. I don't know whether the joke was on me or the gods. Anyway the spectators got great fun out of the incident. They assured me these idols were "good juju."

\* \* \*

At this ferry crossing I encountered the only menacing specimen of wildlife I yet had seen in this thickly populated coastal region. I saw a huge snake swimming across the bayou not far from the boat. I jumped from the truck to the deck and started unlimbering my camera when the snake changed its direction and headed for the boat. Then the natives who were poling us across the lagoon saw the reptile and there was wild excitement aboard. A dozen members of the crew rushed to the rail and began jabbing at the snake with their long poles while they chattered in high pitched voices. I shouted to them to leave the reptile alone while I shot a picture—but they seemed to have a mortal fear the snake would reach the boat, and kept the water in such a churn I never did get the photograph. Finally the snake decided it was not wanted in that vicinity and swam rapidly away. The natives said the reptile "make quick die."

\* \* \*

These natives raise hump-shouldered cows, short-legged goats, long-snouted pigs, and wiry chickens. Life for these barnyard domestics is a daily scramble for existence, and perhaps that accounts for the fact that I never yet have eaten a tender piece of African meat. Passing through the villages, there always are chickens and goats on the road. American drivers try to avoid hitting them, but native drivers are not so considerate. The owners never seem greatly concerned. If a chicken or goat gets hit by a truck, that means meat for dinner—so why worry?

\* \* \*

Along this 700-mile journey we seldom were out of sight of natives walking along the road with huge baskets or trays on their heads, or rolling barrels. When we stopped for lunch crowds would appear like magic to watch us devour our canned beef and fruit juice. And then when the can was tossed away there was a wild scramble. In a region where gourds and homemade pottery are the only available receptacles for cooking and storage purposes, an American tin can is a rare prize indeed.

\* \* \*

Many tribes intermingle in this region. The natives identify their own tribesmen by the scars on their faces. Soon after birth the baby is given the tribal marking by scratching the skin with a sharp point, and then rubbing ashes into the wound so that it leaves an ugly scar. One tribe will have three vertical parallel marks on each cheek, another a horizontal line across the forehead. There are as many combinations as there are brands on the western cattle range in America. Missionaries and teachers have tried to discourage this practice, but in remote villages and in "The Bush" it still goes on.

# Here Are Trails to Enchantment . . .

Trails leading into dimly lighted canyons, up sheer cliffs to ancient ruins . . . Trails across bright distances glowing under a jewel-sky between vermillion-and-cream colored mesas and buttes, through black-green juniper and pinyon . . . Trails into the heart of Indian Country—land of ancient gods and faiths, land of katchinas and snake dancers, of beautiful weaving and pottery making . . . land of turquoise and silver.

**NOW AT YOUR LEISURE** learn these trails by heart through Desert Books. **WHEN YOU TRAVEL** again the joy of following these trails will be multiplied. Enjoy these books yourself. Share them with your friends.



- 1 **THE DESERT**, John C. Van Dyke. New edition of a classic which has never been equaled for description of the mystery and color of the desert. Seen through the eyes of an artist, a nature lover and science student, the deserts of Southern California, Arizona and Sonora become clothed with a magic form. 257 pp. **\$3.00**
- 2 **THE WEST IS STILL WILD**, Harry Carr. Entertaining account of a tour of New Mexico, Arizona and Southern California, by a newspaperman who had an uncanny gift for dipping into the adventurous past and of portraying an array of colorful characters. Includes the Indian Country, Enchanted Mesa, Carlsbad Caverns, Santa Fe and Taos, Boulder Dam and Death Valley. 257 pp. **\$2.50**
- 81 **CALIFORNIA DESERT TRAILS**, J. Smeaton Chase. In demand for 20 years as a guide to Colorado desert of California. Rich in legend, history, geology, plant and animal life. Photos, appen., index, 387 pp. **\$4.00**
- 101 **MESA LAND**, Anna W. Ickes. Enchantment of Southwest, brief history of Arizona and New Mexico, leading Indian tribes. Illus., index, 236 pp. **\$3.00**
- 102 **MESA, CANYON AND PUEBLO**, Chas. F. Lummis. A classic desert volume to take down from your bookshelf year after year. The land, customs and occupations of the Southwest Indians. Over 100 photos, map. 517 pp. **\$5.00**
- 103 **DESERT COUNTRY**, Edwin Corle. Indian tribes, ghost towns, legends, oases, history—from the Border to Nevada, from the Mojave and Death Valley to the Grand Canyon. 357 pp., index **\$3.00**
- 104 **MORMON COUNTRY**, Wallace Stegner. Saga of the Mormons—pioneering self-sacrifice against rugged land of Utah, southern Idaho, southwestern Wyoming, Arizona, Nevada, Colorado, New Mexico. 362 pp., index **\$3.00**
- 105 **PINON COUNTRY**, Haniel Long. America's most picturesque region—land of the Navajo, Pueblos, Coronado, Billy the Kid, Carlsbad Caverns. Character and effects of Upper Sonoran life-belt. 327 pp., index **\$3.00**
- 100 **APACHE GOLD AND YAQUI SILVER**, J. Frank Dobie. Fascinating lost mines and buried treasure stories by a master story teller. Beautiful color plates and black-and-whites by Tom Lea. 366 pp. **\$3.50**
- 131 **HAWK OVER WHIRLPOOL**, Ruth M. Underhill. States in poetic and moving words unsolved problem of Indian adjustment to white civilization. Told through life of a southern Arizona Indian boy who although bitter and disillusioned, has a vision of a new red-white relationship. 255 pp. **\$2.50**
- 75 **RHYTHM FOR RAIN**, John Louw Nelson. Drama and ancient culture of the Hopi Indians, told in the epic story of the Great Drought. Interpretation of Hopi rain dances by a man who has a sensitive understanding of the Indian mind. Paintings by Indian artists, photos, glossary of Hopi words. 263 pp. **\$3.25**
- 78 **INDIAN BLANKETS AND THEIR MAKERS**, George Wharton James. Study of Navajo and Pueblo weaving art. Classification and analysis of types, development and background. Appendix includes section on dealers. De Luxe 1937 edition, 7½x10¼. 64 illustrations, 32 color plates. 213 pp. Limited number of copies available, boxed **\$3.00**
- 80 **ACOMA**, Mrs. William T. Sedgwick. Story of the Indian civilization of New Mexico's Sky City. Substance of all that has been written on Acoma. Based on diaries, archaeological notes of Bandelier, Fewkes, Parsons and Hodge, and legends and folk-tales. End-maps, photos, app., biblio., index, 318 pp. **\$2.50**
- 120 **THE RAIN MAKERS**, Mary Roberts Coolidge. Absorbing study of Southwest Indian civilization. Comprehensive, scientific, vivid. History, social life, arts and ceremonials. mythology. Illus., endmaps, index. 326 pp. **\$4.00**
- 126 **DEZBA, Woman of the Desert**, Gladys A. Reichard. Revealing and understanding story of a Navajo family. One of the most constructive and sensitive statements of the Indian adjustment problem. 56 full page photos, colored end-maps. Sale price **\$2.50**
- 132 **HOPI KACHINAS**, Dr. Edw. A. Kennard. A treasury of Hopi gods in 28 beautiful color plates by Edwin Earle. A vivid pictorial story of Indian ceremonials. A few copies available. 9x12 inches. **\$10.00**
- 133 **MY ADVENTURES IN ZUNI**, Frank Hamilton Cushing. Limited reprint edition of the distinguished scientist's experiences in the Land of Zuni. Beautifully illustrated by Fanita Lanier in line drawings and hand-colored marginal paintings. 8x9 inches. **\$7.50**

Desert Cards Mailed with Gift Copies at No Extra Cost

All Books Postpaid — Add 2½% Tax in California

## Desert Crafts Shop

636 State Street

El Centro, California

WRITE FOR A COMPLETE CATALOG OF TITLES